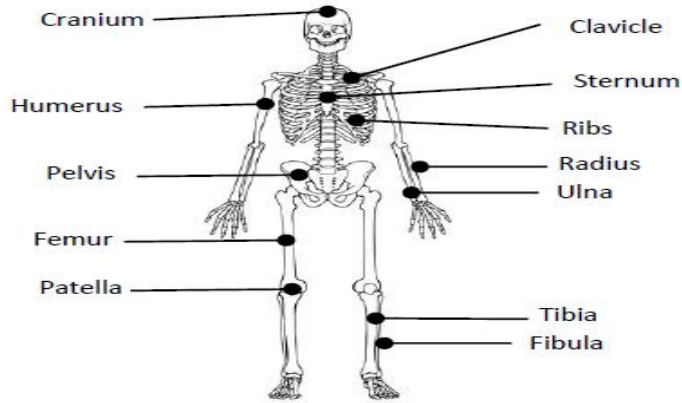
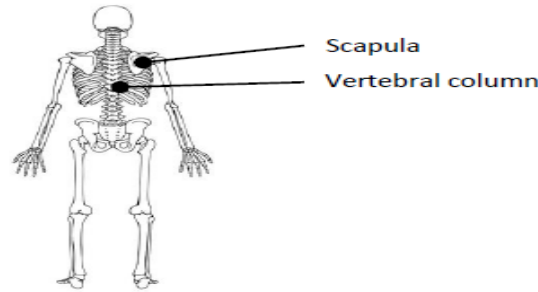


GCSE Physical Education – The structure and functions of the skeletal system

Structure of the skeletal system



Structure of the skeletal system



Vertebral Column

The vertebral column is divided into 5 sections. It is made up of irregularly shaped bones called vertebrae.

Each vertebrae is protected with cartilage to prevent friction.

The vertebrae protects the spinal cord.



Functions of the skeleton

Support	keeps body upright / provides framework to support muscles / tissues in body
Posture	skeleton / skeletal structure gives correct shape to the body
Protection	parts of the skeleton / skeletal structure protect internal organs / reduce risk of injury / damage on impact (e.g. ribs protect the heart, cranium protects the brain)
Movement	skeleton / skeletal structure allows muscle attachment / provides leverage to enable movement
Blood cell production	bone marrow in some larger bones produces blood cells
Storage of minerals	bones release minerals in to the blood as needed (calcium phosphorus)

Synovial joints

Definition:

Freely movable joints that allow us the movement to perform skills and techniques during physical activity.

There are **TWO** different Types of Synovial joints that we need to know: **HINGE JOINT** and **BALL AND SOCKET JOINT**

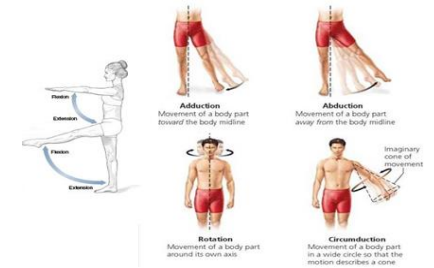
HINGE JOINT

Where in body?	Articulating bones	Types of movement at joint
KNEE	Femur, Tibia	flexion, extension
ELBOW	humerus, radius, ulna	flexion, extension



BALL & SOCKET JOINT

Where in body?	Articulating bones	Types of movement at joint
SHOULDER	humerus, scapula	flexion, extension abduction, adduction rotation, circumduction
HIP	Pelvis, femur	flexion, extension abduction, adduction rotation, circumduction



Cartilage, Ligaments and Tendons

Cartilage

- Reduce friction
- Shock absorber
- Found at the ends of the bone

Ligament

- They connect bone to bone
- They stabilize the joints during movement / prevent dislocation / restrict movement
- They are able to protect joints / bones (because of their elasticity) / they can absorb shock

Tendons

- They connect bone to muscle
- Assist the muscle with pulling the bone
- Make bones move when the muscles contract
- Give stability / support / shock absorber