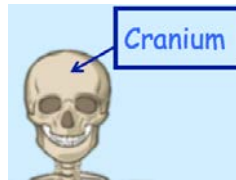
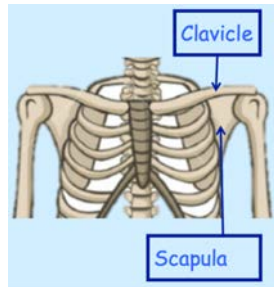
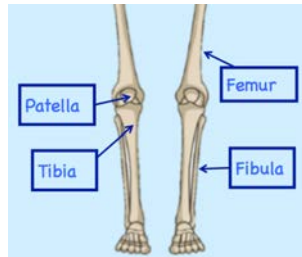
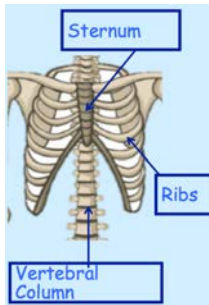
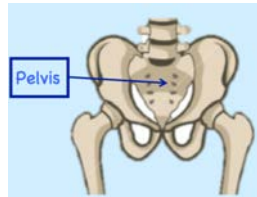
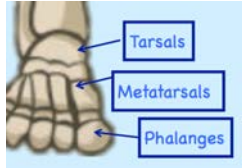
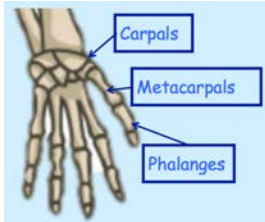


## Skeletal System (1.1a)

### Skeletal System (1.1a): Bones and functions

#### Functions of the skeleton:

- Shape and support
- Allows movement
- Blood production
- Stores minerals
- Protection of organs



### Skeletal System (1.1a): Joints

- **Synovial Joint:** This is a freely movable joint where two or more bones articulate.
- **Tendons:** Connect muscle to bone and transmit muscular force to move bone.
- **Ligaments:** Connect bone to bone and keep joints stable.
- **Articular cartilage:** Protects the bones surface at joints by reducing friction and absorbing shock. Difficult to heal as no blood supply.
- **Articulating bones:** bones that move within a joint

**Hinge Joints:** (movement) flexion and extension

**Knee:** tibia + femur

**Elbow:** radius, humerus + ulna



**Ball and socket joints:** (movement) all movements

**Hip:** pelvis + femur

**Shoulder:** clavicle + scapula



### Skeletal System (1.1a): Types of movement

**Flexion:** the decrease in angle around a joint, e.g. the preparation phase when the leg is drawn back before striking a football.



**Extension:** the increase in angle around a joint, e.g. the execution phase as the ball is released when shooting a basketball.



**Abduction:** movement away from the midline of the body, e.g. A swimmer moves their arms out to the side during butterfly.



**Adduction:** movement towards the midline of the body, e.g. Recovery leg kick action in breaststroke.



**Rotation:** when a bone turns about its longitudinal axis, e.g. during the backswing of a tennis serve.

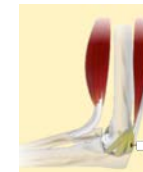


**Circumduction:** all movements combined to produce continuous motion.

### Skeletal System (1.1a) Key Terms:

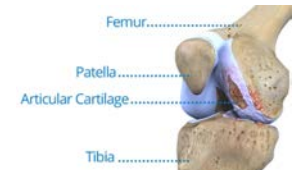
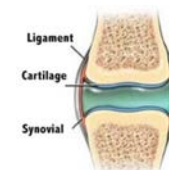
#### • Ligaments:

- Attach bone to bone
- Stabilise joint
- Tough tissue



#### • Tendons:

- Attach muscle to bone
- Transmit movement



#### • Cartilage:

- Reduce friction
- Act as a shock absorber
- Difficult to heal as no blood supply



