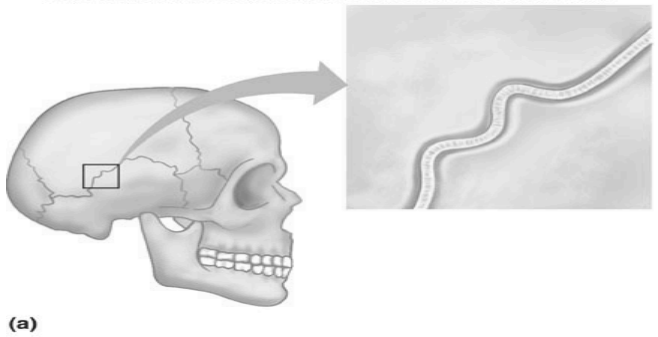
Types of Joints

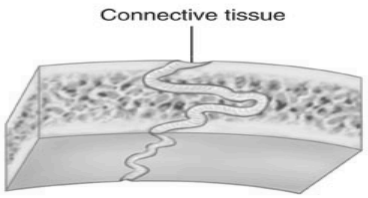
Joint Classification

Fibrous Joints

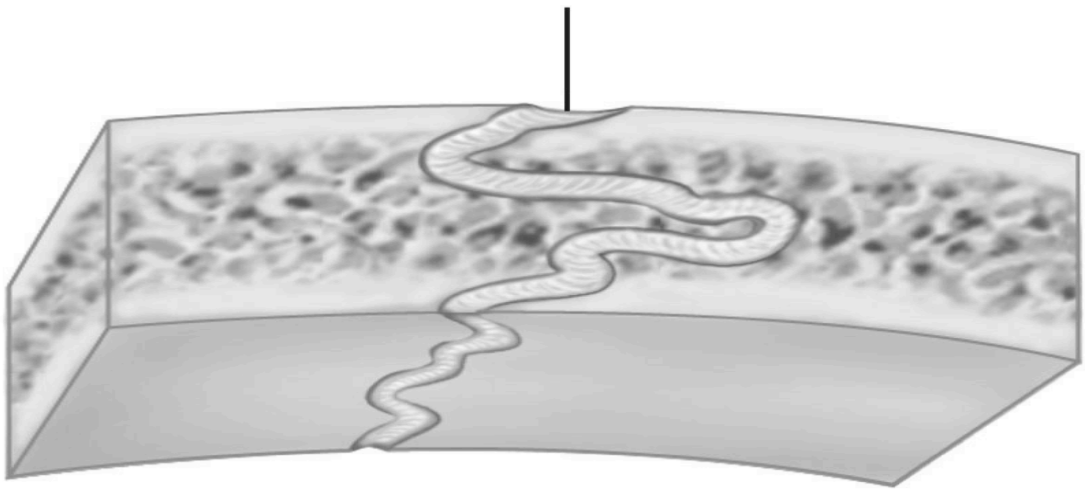
- Found where bones have close contact with each other.
- Connective tissue found between the joint
- Little to no movement
- Ex. Sutures of the skull



(a)



(b)



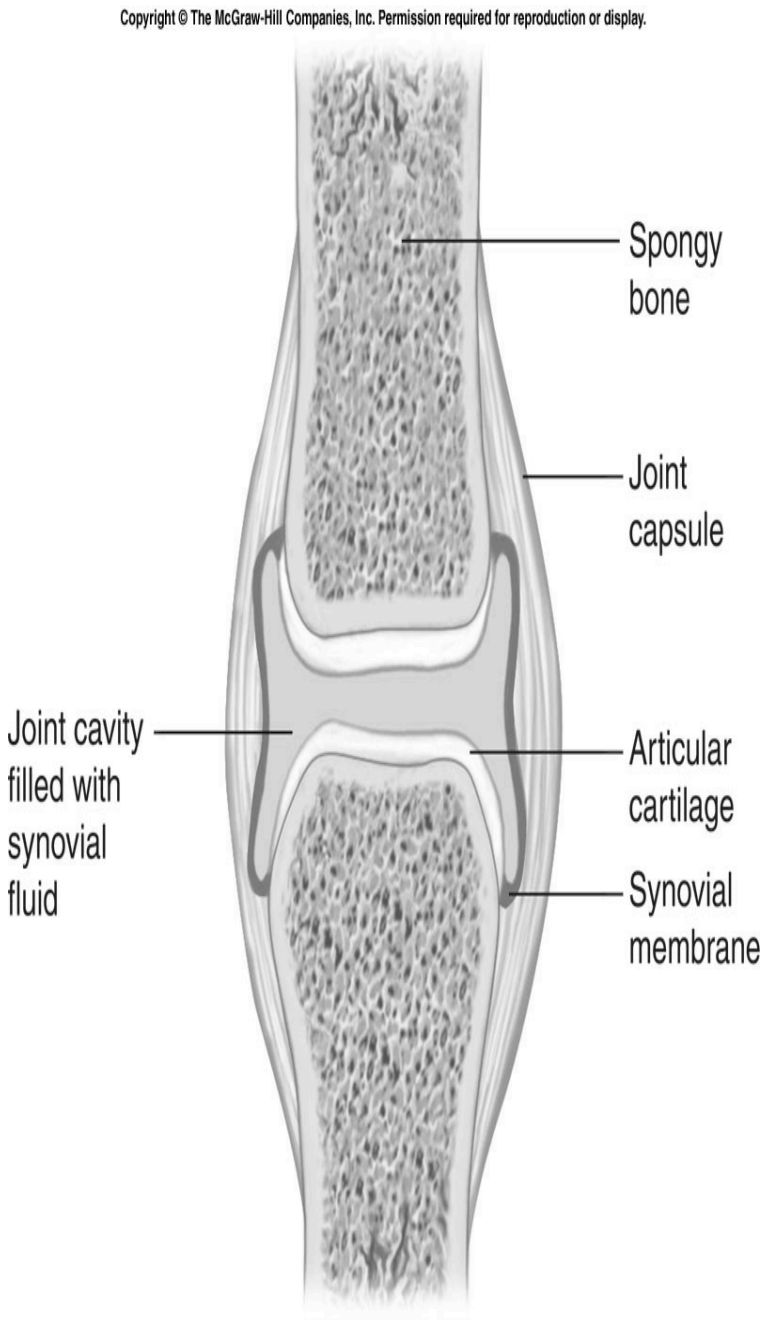
(b)

Cartilaginous joints

- Found where shock absorption occurs.
- Hyaline cartilage or fibrocartilage found between the joint.
- Limited movement, twisting and bending.
- Found between the vertebrae.

Synovial Joints

- Most of the joints in the skeletal system are synovial joints which allow free movement.
- Includes hyaline cartilage, connective tissue, synovial membrane and fluid and bursae.
- Classified into six categories.



1. Ball-and-Socket joint

- Ball shaped head

of one bone connects

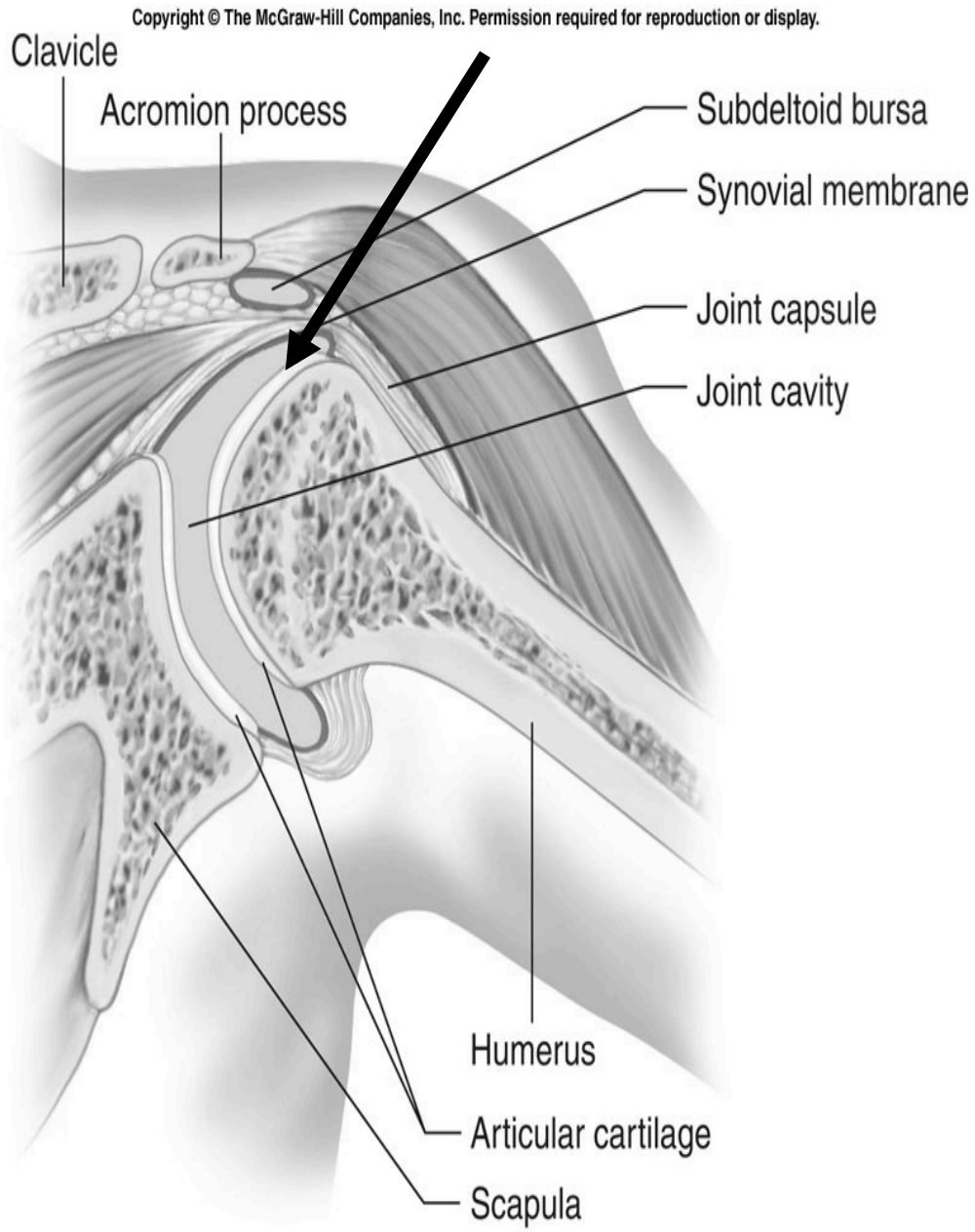
to cup-shaped cavity

of another.

- Allows motion

in all planes.

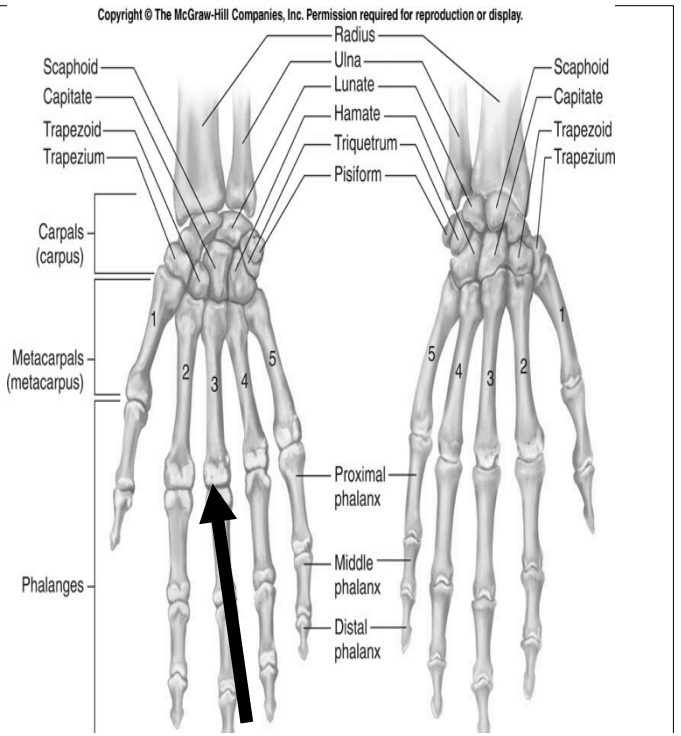
- Hip and shoulder

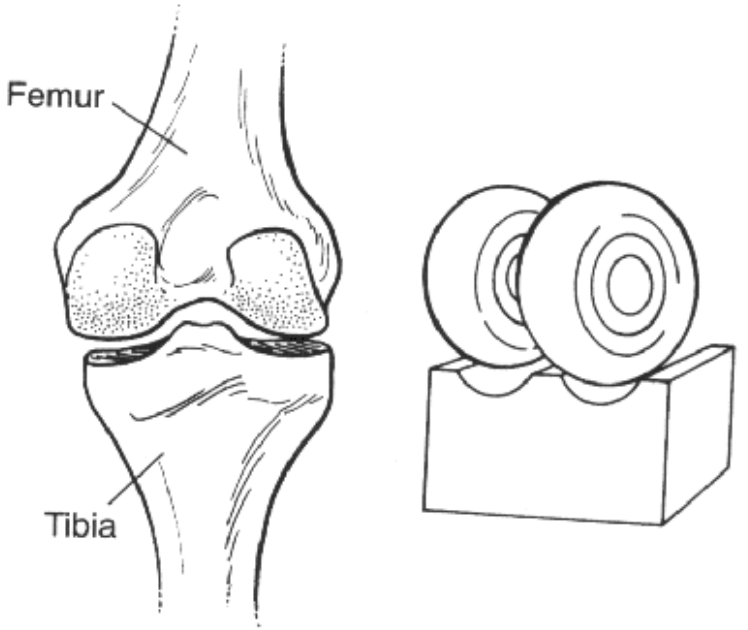


Broken Femur = Worst Pain

2. Condylar joint

- Oval shaped condyle fits into an elliptical cavity of another.
- Variety of movements in different planes but *not rotational (twisting)*
- Ex: Knees and Metacarpals connection with the phalanges.





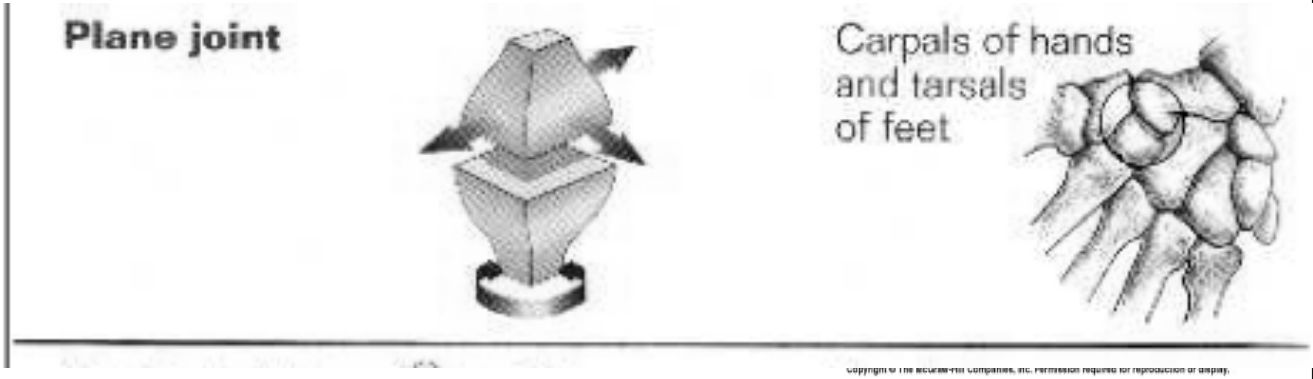
CONDYLOID

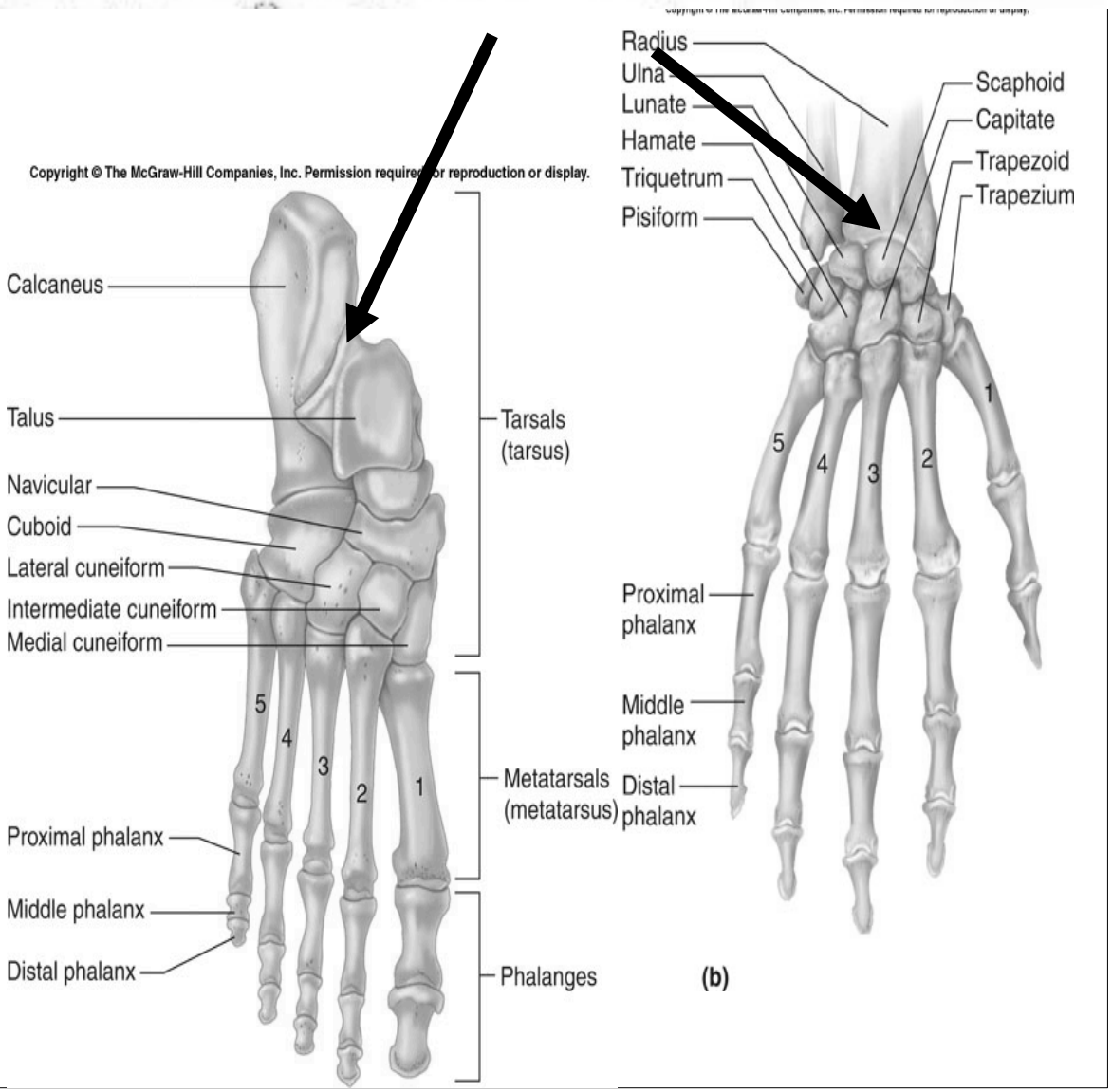
Exam Question:

- Why can knees not twist?

Plane Joints

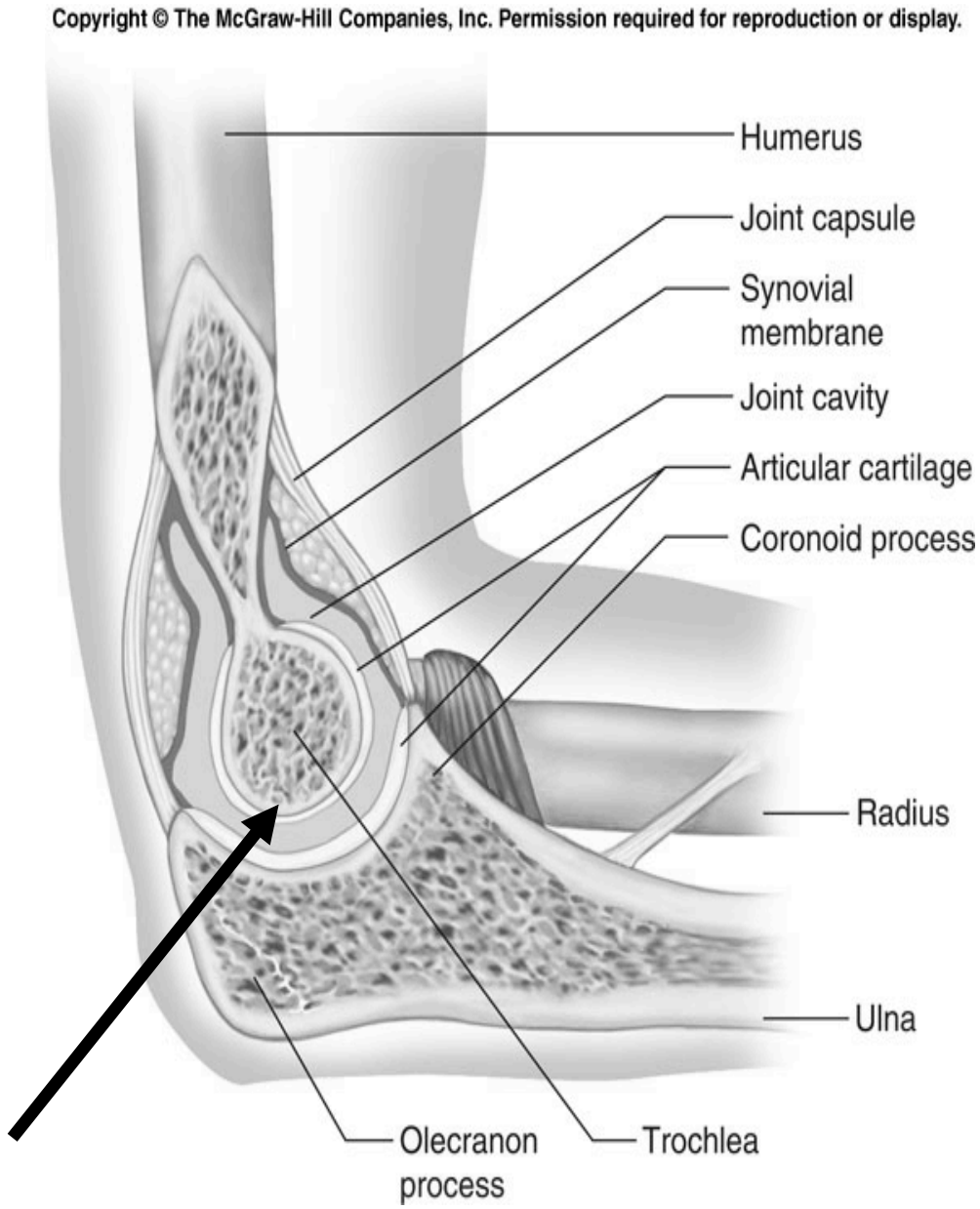
- Flat and curved surfaces connect.
- Allow sliding and twisting.
- Bones of wrist and ankle.





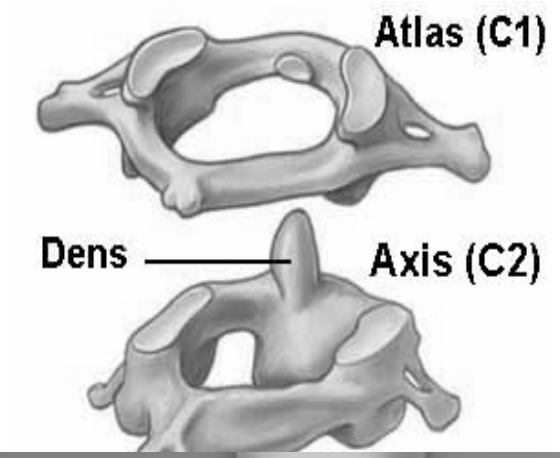
Hinge Joint

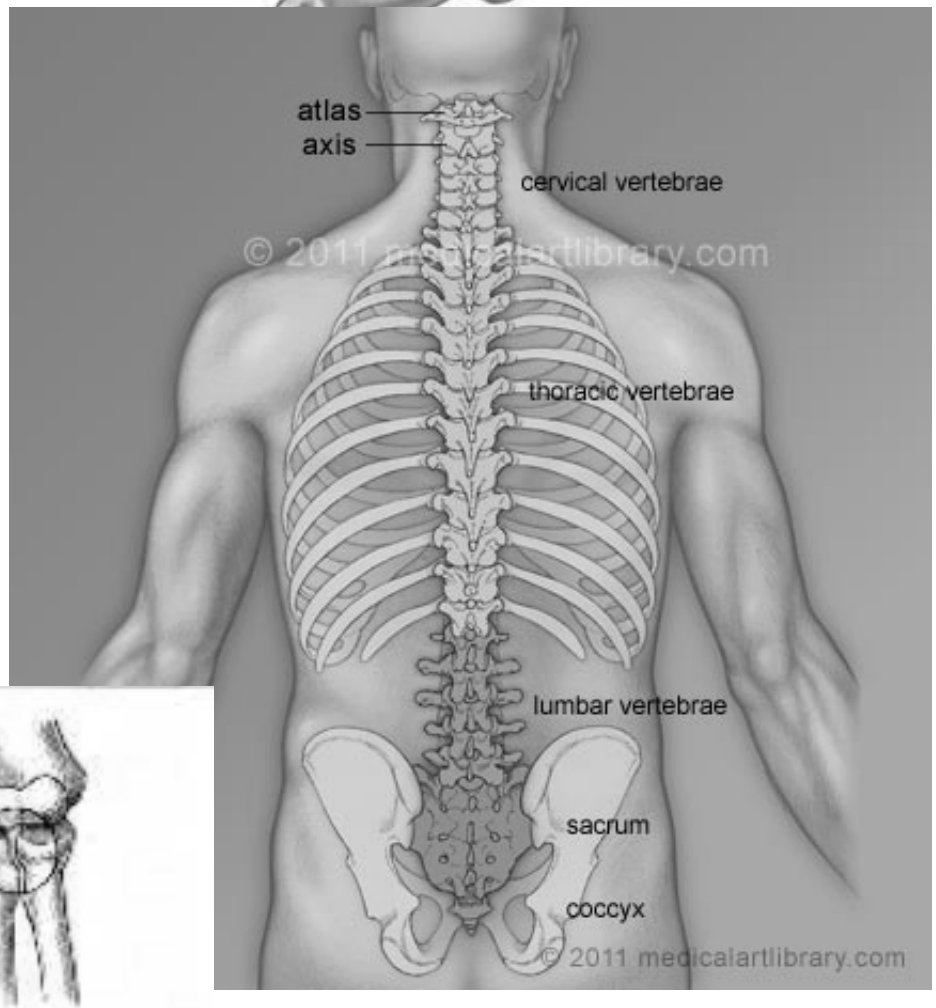
- Convex surface of one bone connects to concave surface of another.
- Movement in one plane. (like a door)
- Elbow and phalanges.

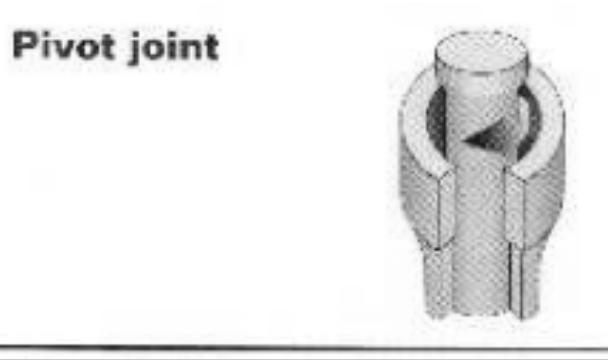


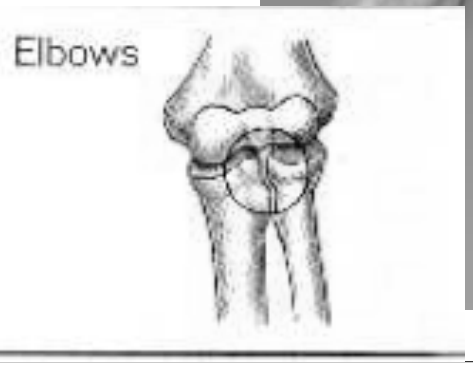
Pivot joint

- Cylindrical surface of one bone rotates within a ring formed of bone and ligament.
- Movement around a central axis-rotation.
- Atlas (the Greek god who supported the world on his houlders) and axis in cervical vertebrae.



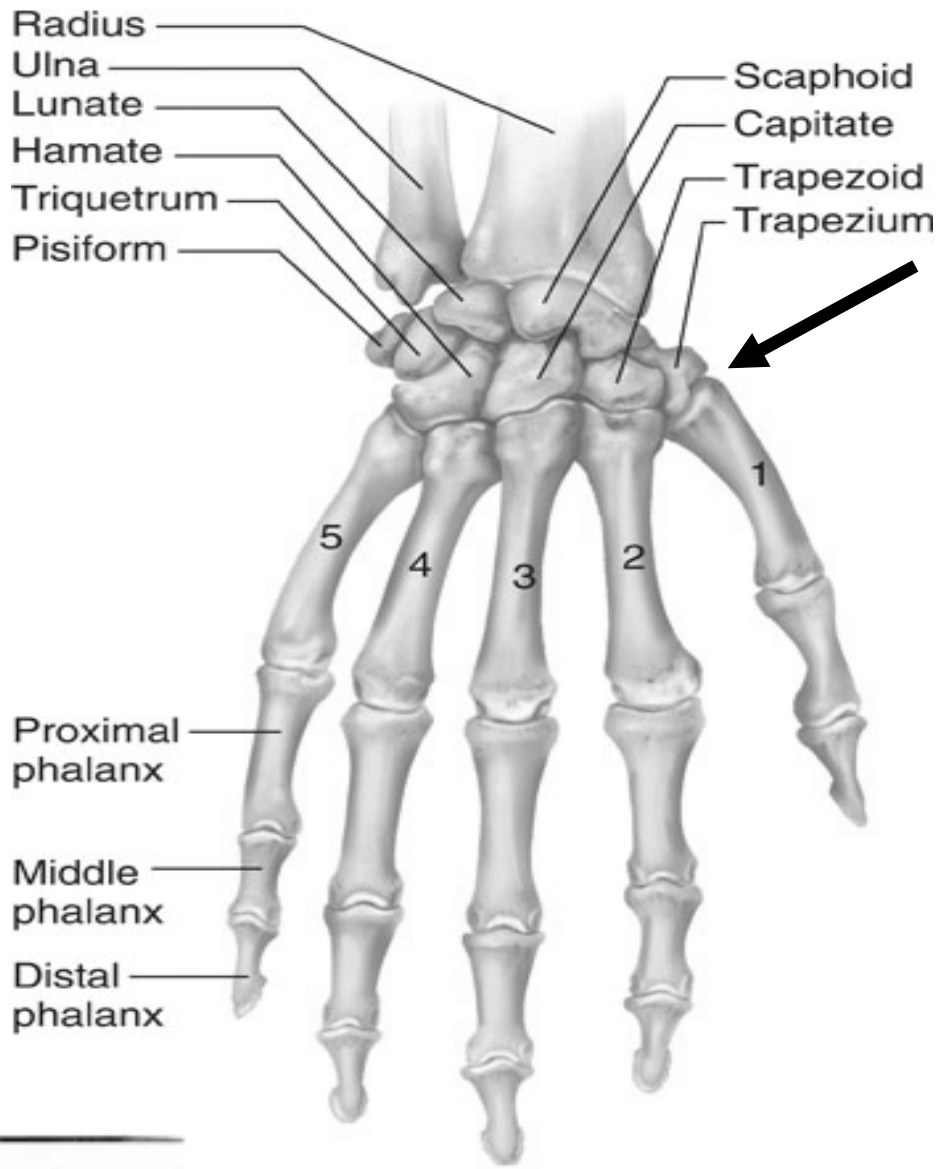


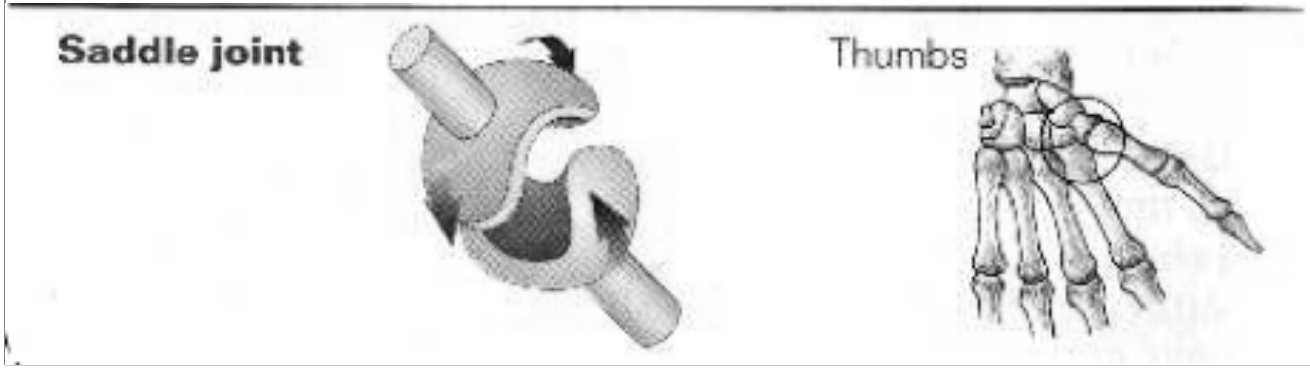


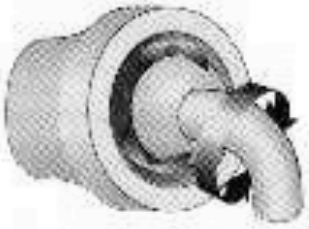
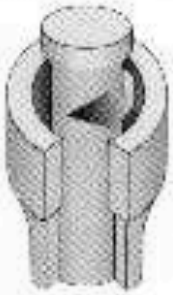
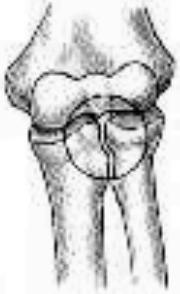
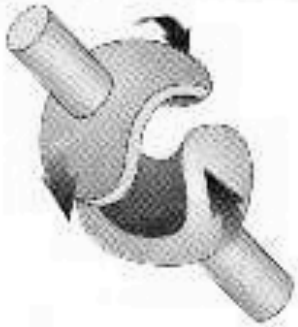
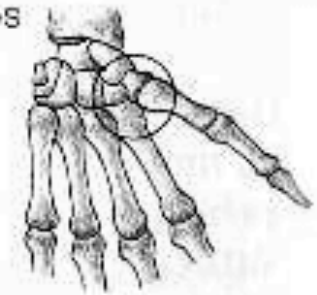


Saddle joint

- Connect bones with convex and concave surfaces.
- Movement include a variety.
- Bones at carpal and metacarpal of thumb.





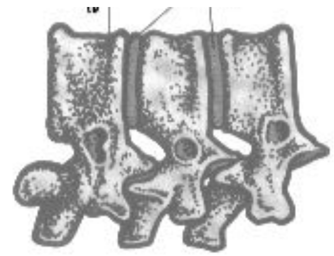
Name	Type of Movement	Examples
Ball-and-socket joint		Shoulders and hips 
Pivot joint		Elbows 
Plane joint		Carpals of hands and tarsals of feet 
Saddle joint		Thumbs 

Self Test

Joint Type:

Ex:______________

How form Fits Function:



Joint Type:

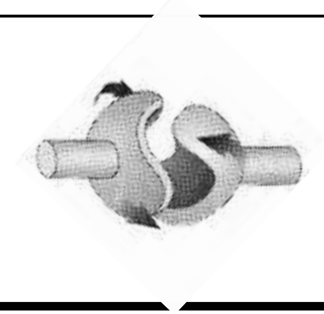
Ex:______________

How form Fits Function:

Joint Type:

Ex:______________

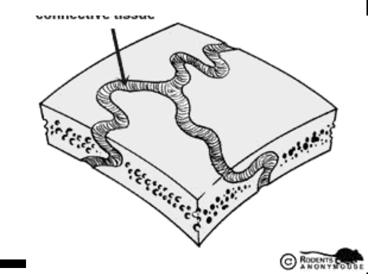
How form Fits Function:



Joint Type:

Ex:______________

How form Fits Function:



Joint Type:

Ex:______________

How form Fits Function:

Joint Type:

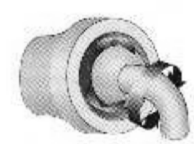
Ex:______________

How form Fits Function:

Joint Type:

Ex:______________

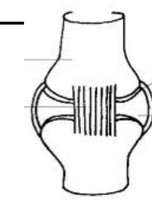
How form Fits Function:



Joint Type:

Ex:______________

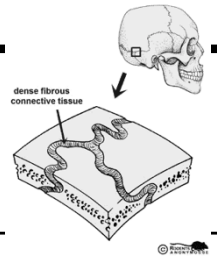
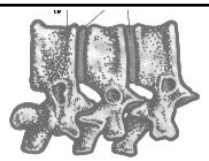
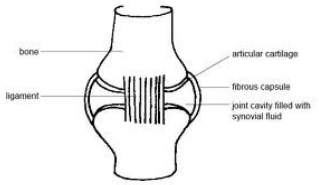
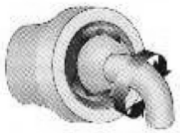
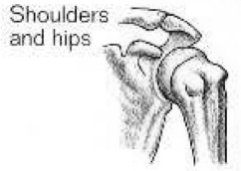
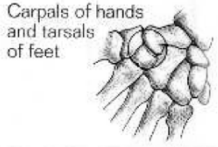
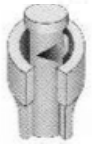
How form Fits Function:



Joint Type:

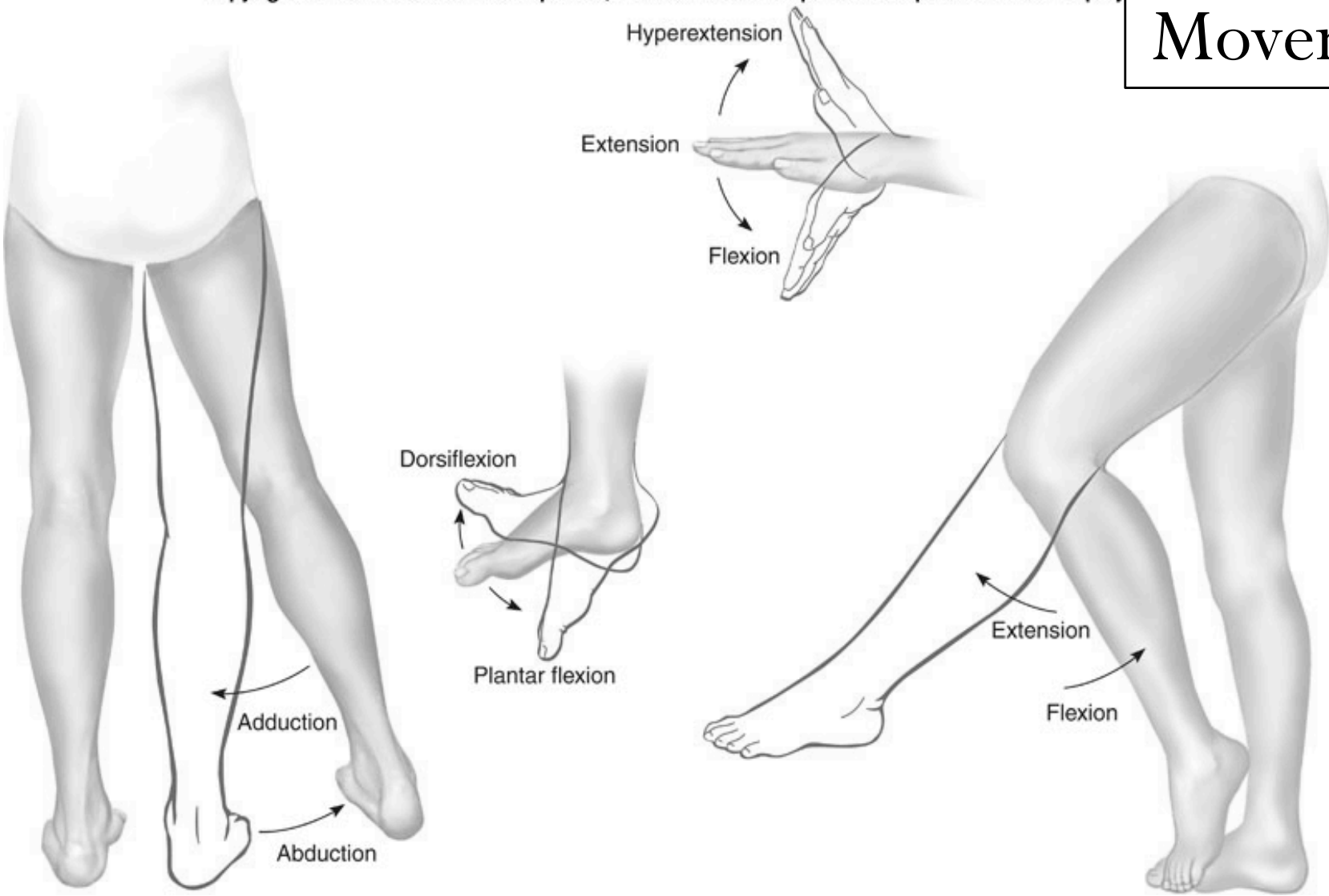
Ex:______________

How form Fits Function:

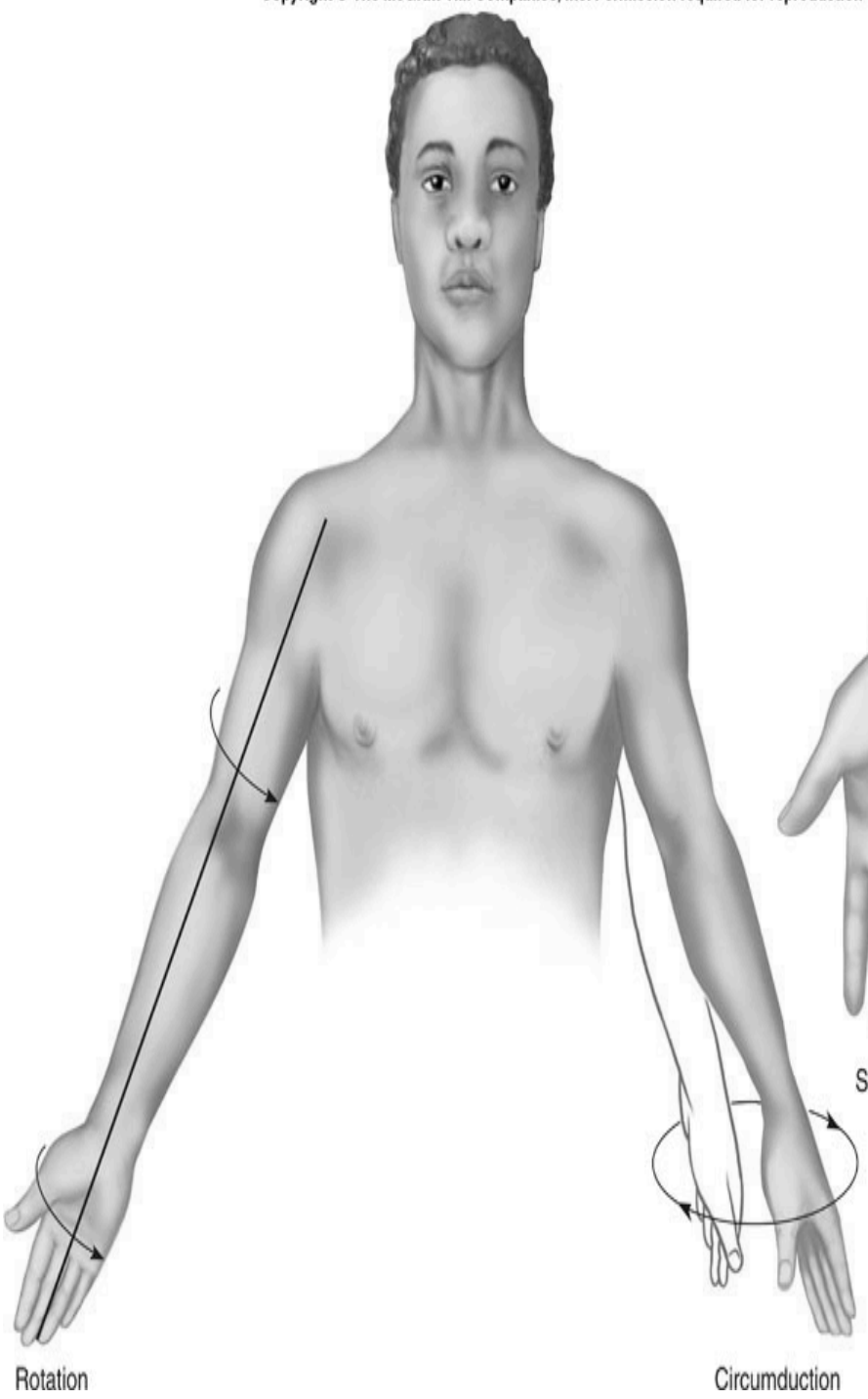
Joint Type	Form	Function	How does form fit function
Fibrous Joints Ex:_____			
Cartilaginous joints Ex:_____			
Synovial Joints Ex:_____			
1. Ball-&-Socket joint Ex:_____	 		
2. Condylar joint Ex:_____			
Plane Joint Ex:_____	 		
Hinge Joint Ex:_____			
Pivot joint Ex:_____	 		
Saddle joint Ex:	 		

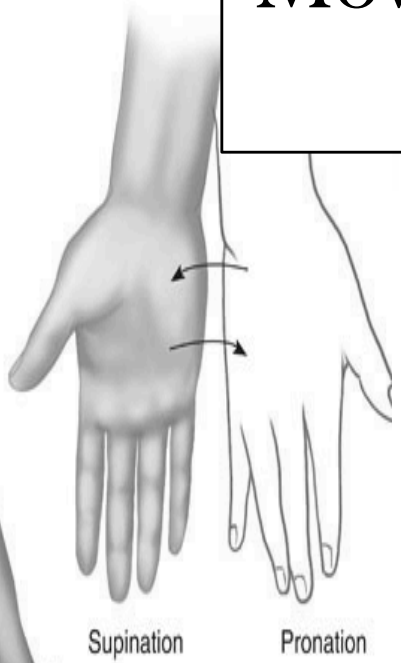
MOVEMENT OF JOINTS

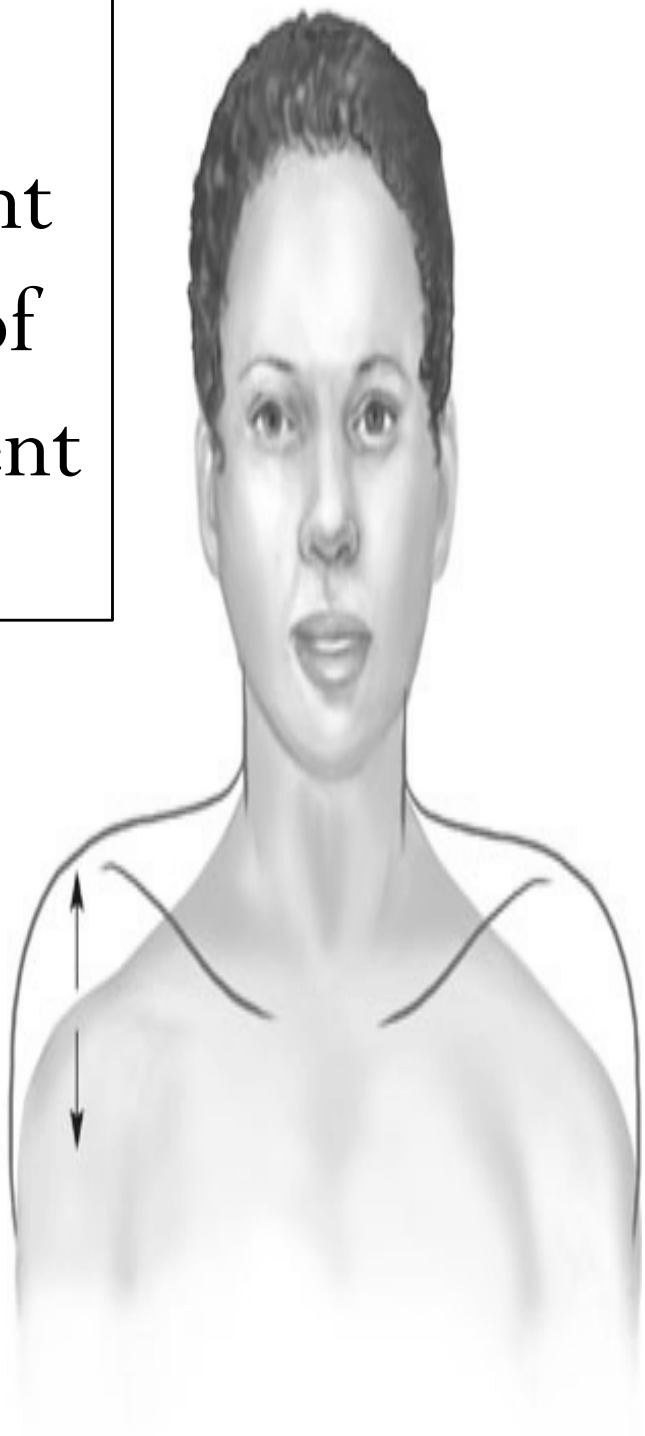
Different Types of Movement



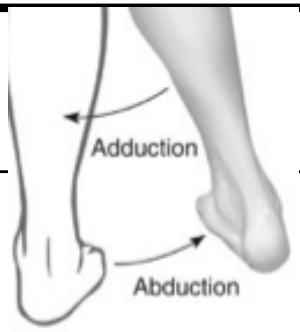
Different Types of Movement

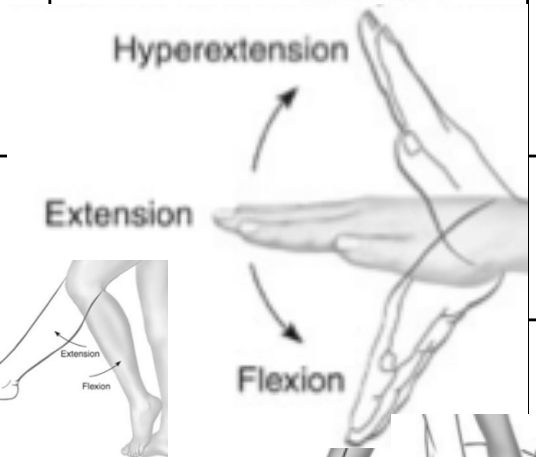


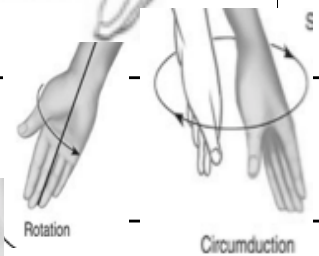




Movement Type	Form	Joint that allows this movement
Adduction Ex:_____		
Abduction Ex:_____		
Dorsiflexion Ex:_____		
Planter flexion Ex:_____		
Hyperextension Ex:_____		
Extension Ex:_____		
Flexion Ex:_____		
Rotation Vs Circular Ex:_____		
Elevation Vs Depression Ex:_____		







What is the significance of the wide variety of movement demonstrated by hands?