CRANIAL BONES

1. Frontal
2. Parital
3. Occipital
4. Temporal
    a. Zygomatic process
    b. Temporomandibular joint
    c. External auditory meatus
5. Sphenoid “keystone”
6. Ethmoid
    a. Perpendicular plate
    b. conchae/turbinates
    c. Ethmoidal cells

FACIAL BONES

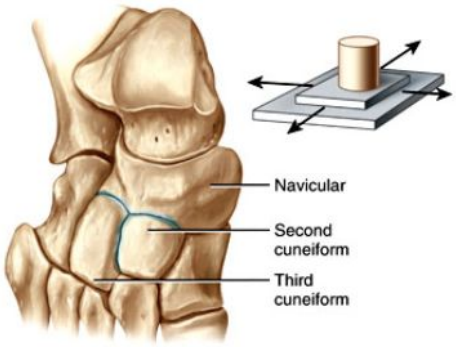
1. Nasal bones 2
2. Maxillae 2
3. Zygomatic bones 2
4. Lacrimal bones 2
5. Palatine bones 2
6. Inferior nasal conchae 2
7. Vomer
8. Mandible

SKULL BONES

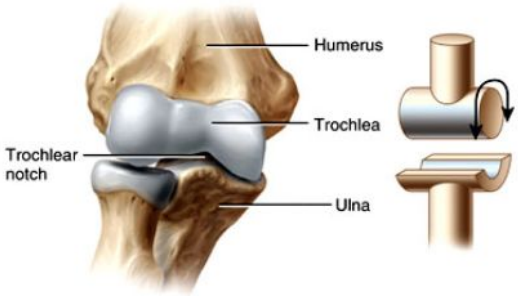
1. Fontanels
    a. Fibrous CONNECTIVE TISSUE membranes that LINK cranial bones
    b. At birth = “soft spots” areas of ossified tissue
    c. Anterior fontanel
    d. Eventually, ossification process ---> become sutures
    e. Provide flexibility to the fetal skull
2. Sutures
    a. Immovable joint found between skull bones (synarthrosis)
    b. Thin layer of dense fibrous connective tissue
    c. Irregular interlocking edges
    d. Coronal suture
    e. SYNOSTOSIS = bony joint = complete fusion of bone across the suture line
    f. Metopic suture
3. Paranasal sinuses
    a. Paired cavities within certain cranial and facial bones near the nasal cavity
    b. Frontal, sphenoid, ethmoid and maxillary bones
    c. Lined with mucous membranes = the secretions drain into the nasal caviyt

a. Femur = longest, heaviest, strongest bone
b. Proximally
    i. Acetabulum of the hip bone, forming the hip
c. Distally
    i. Tibia and patella

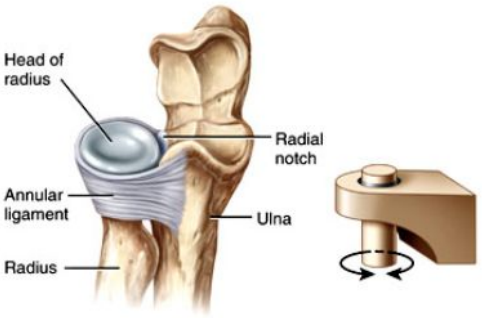
5. **PATELLA:**
    a. Largest sesamoid bone
    b. Forms patellofemoral joint
    c. Increases leverage of the quadriceps femoris muscle
    d. Patellofemoral stress syndrome - runners syndrome
6. **TIBIA**
    a. Larger, medial weight-bearing bone of leg
    b. Proximal - femur
    c. Distally- fibula and talus
7. **FIBULA:**
    a. Smaller, laterally place bone in leg
    b. Non weight bearing
    c. Proximally - tibia
    d. Distally - tibia and talus
8. Interosseous membrane
9. **SKELETON OF FOOT**
    a. 7 tarsal bones
        i. Talus
        ii. Calcaneus
    b. 4 metatarsals (1-5) base, shaft, head
    c. 14 phalanges (hallux)



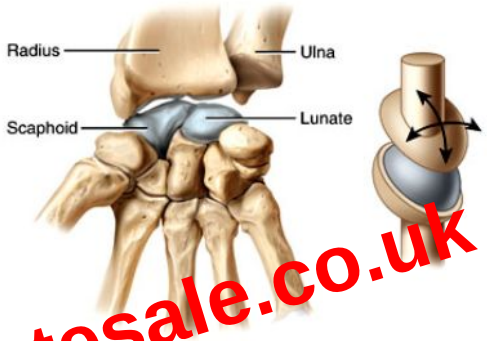
(a) Planar joint between navicular and second and third cuneiforms of tarsus in foot



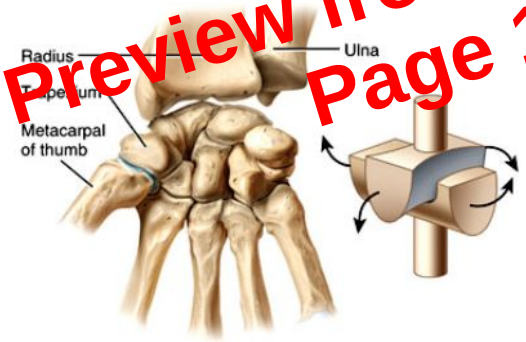
(b) Hinge joint between trochlea of humerus and trochlear notch of ulna at the elbow



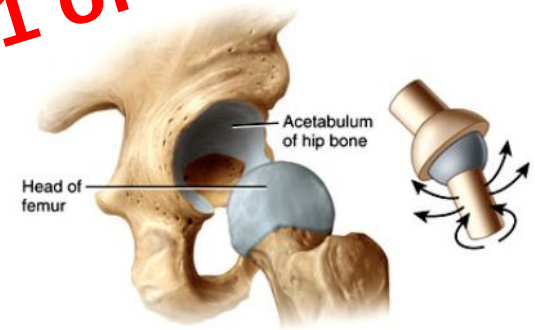
(c) Pivot joint between head of radius and radial notch of ulna



(d) Condyloid joint between radius and scaphoid and lunate bones of carpus (wrist)



(e) Saddle joint between trapezium of carpus (wrist) and metacarpal of thumb



(f) Ball-and-socket joint between head of femur and acetabulum of hip bone

Skeletal muscle fiber

1. **Sarcolemma** : plasma membrane (phospholipid bilayer)
    a. **Transverse** (T tubules)
        i. Tunnel in from the membrane into the center to make sure that the nerve impulse reaches the myofilaments … then all of the muscle can then contract
2. **Sarcoplasm**
    a. Lots of Glycogen (glucose) here
    b. Contains protein myoglobin (carries oxygen)
        i. Gives red color to muscle
3. **Myofibrils**
4. **Sarcoplasmic reticulum (SR)**
    a. **Huge membrane network of sacs that lay on the myofibrils**
    b. **STORES CALCIUM IONS**
    c. Terminal cisterns : swelling at the end of the SR near where it touches the T tubules…… contains more calcium
    d. Triad = T tubules and swelling of SR on either side of T tubules
5. **Myofilaments**
6. **Sarcomere**
    a. The sarcomere is the functional unit of the muscle fiber.
    b. The sarcomere itself is bundled within the myofibril that runs the entire length of the muscle fiber and attaches to the sarcolemma at its end

SMOOTH MUSCLE TISSUE

1. Contains both thick and thin filaments
    a. **NOT ARRANGED IN ORDERLY SARCOMERES**
2. No regular pattern of overlap thus **NOT STRIATED**
3. Contain only small amount of stored Ca++
4. Filaments attach to dense bodies and stretch from one dense body to another
    a. Dense bodies: similar to Z discs

Myofibril contain myofilaments (ACTIN AND MYOSIN)