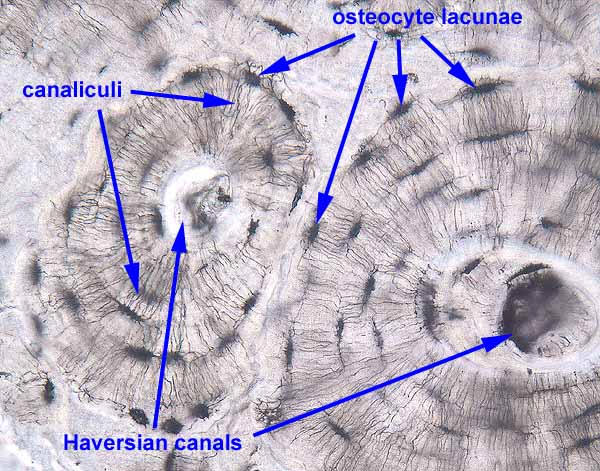
**Chapter 47**

**Bone classification-bones are often classified by the way that they developed**

**Bone Cell**



**1.intramembranous development**

**2.endochoondral development**

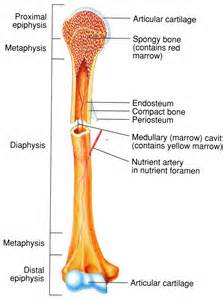
**Bone Structure**

**Types of Bones**

**Long bones-**

**Short bones-**

**Parts of the long bone**



**1.The long shaft known as the diaphsis, which lies between the extreme ends of the bone called the epiphyses which forms a joint(articulation)with another bone with the outer surface forming the articular cartilage which is a thin layer of hyaline cartilage**

**2.periosteum-**

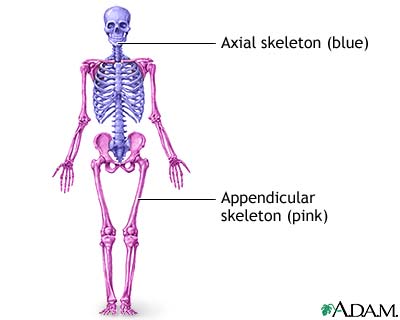
**3.compact bone**

**4.spongy bone-**

**5.medullary cavity-**

**Bones and Bone Systems**

**Bones of the Axial skeleton**



**A.Skull**

**1.consists of 22 bones that are closely adjoined by narrow joints called sutures**

**2.sinus-chambers lined with mucous membranes and filled with air that connect with the nasal cavity to drain fluids, reduce the weight of the skull and resonate sounds form the voice**

**Cranium-**

**The following bones make up the skull:**

**Frontal bones, two parietal bones, occipital bone, two tempeoral bones, sphenioid bone and ethmoid bone**

**B.Facial Bones**

**1.contains 13 immovable bones and a movable lower jaw**

**2.they support the face and provide attachments for muscles that control facial expressions and move the jaw**

**The following bones make up the face:**

**Two maxillary bones, palatine bones, two zygomatic bones, two nasal bones, vomer, two inferior nasal conchae ad the mandible**

**C.thoracid cage consists of the vertebrae, sternum, and ribs**

**-there are 7 pairs of true ribs connected to the sternum or breastbones**

**-there are 5 pairs of false ribs that have no indirect connection to the sternum**

**-there are 2 pairs of floating ribs that lack cartilage**

**D.vertebral column-**

**-it is composed of vertebrae and between each is a mass of fibrocarilage called an intervertebral disc**

**-7 cervical vertebrae are in the neck**

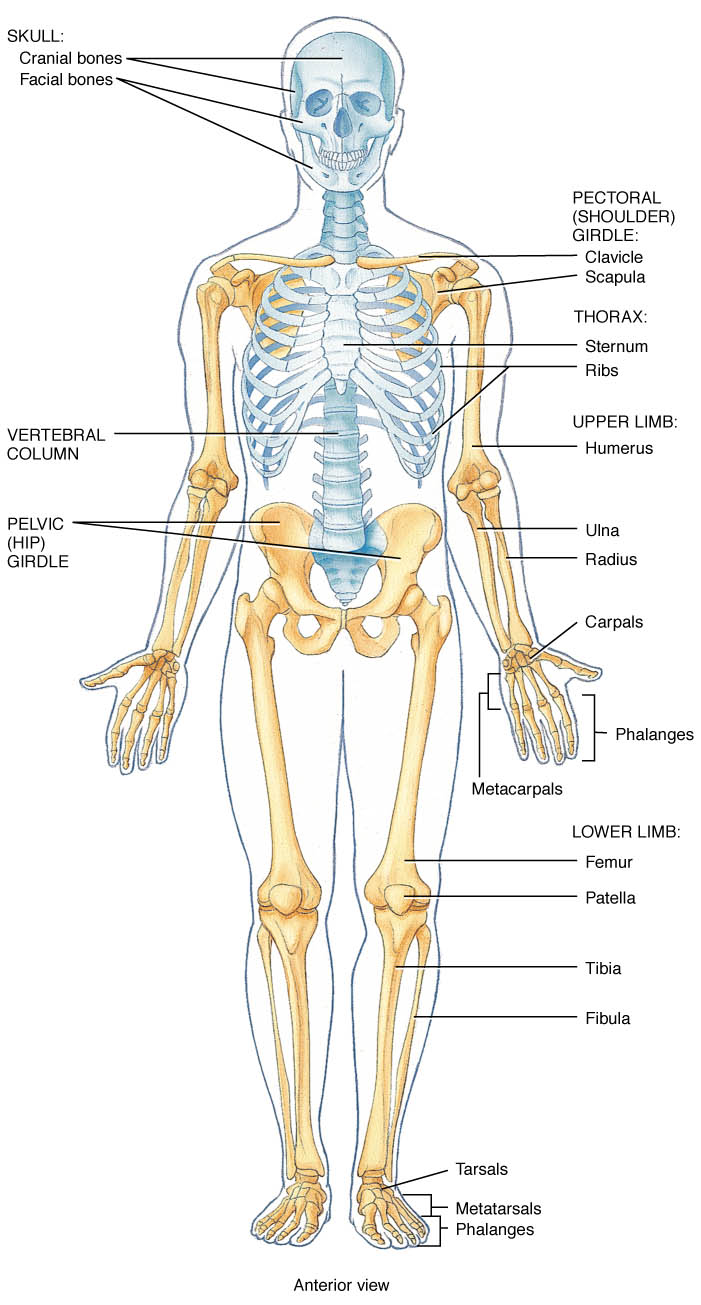
**-12 thoracic vertebrae are in the thorax**

**-5 lumbar vertebrae are in the lower trunk**

**-5 sacral vertebrae are fused into the sacrum**

**-4 coccygeal vertebrae are fused into the coccyx**

**Bones of the Appendicular skeleton**



**A.pectoral girdle-**

**2.the upper limbs consists of 60 bones**

**humerus-prominent long bone of the arm, radius-lateral bone of the forearm that is always in line with the thumb**

**ulna-located medial to the radius in the forearm**

**hand-consists of 8 carpal bones, 5 metacarpal bones, and 14 phalanges**

**B.pelvic girdle-provides a strong durable form for supporting the lower limbs and carries the weight of the body**

**The following bones make up the pelvic girdle: aceabulum, ilium, ishium, pubis**

**6.lower limbs-support the thigh, legs, ankles, and foot**

**-femur-longest and heaviest bone in the body**

**The following bones make up the lower limb: tibia, fibula, foot, 5tarsal bones, 5 metatarsal bones, and 14 phalanges**