

<p>Human Skeleton</p> <p>Human have around 300 bones at birth</p> <p>206 bones when adult</p> <p>18% of total body weight</p>	<p>Axial Skeleton (cont)</p> <p>Vertebral column parts; Cervical, Thoracic, Lumber & Pelvic</p> <p>Cervical - 07 vertebrae</p> <p>Thoracic - 12 vertebrae</p> <p>Lumber - 05 vertebrae</p> <p>Pelvic - 09 vertebrae fusion into 2 named Sacrum 05 vertebrae & Coccyx 04 vertebrae</p> <p>Total Vertebrae no: 26</p> <p>Ribs types True, False & Floating</p> <p>True ribs number 14 (07 pairs)</p> <p>False ribs number 06 (03 pairs)</p> <p>Floating ribs number 04 (02 pairs)</p> <p>Total bones in Axial Skeleton Skull-29, Vertebral column - 26, Sternum-01 and Ribs-24 = 80 bones</p>	<p>Joints</p> <p>Site 2 or more bones meet</p> <p>Approximately 360 joints in our body</p> <p>3 types: Fibrous, Cartilaginous & Synovial</p> <p>Different types of synovial joints present in our body like Hinge, - Pivot, Ball & Socket, Condyloid, Gliding Joint</p>	<p>Energy of muscle contraction (cont)</p> <p>Phosphocreatine: reserve of high-energy phosphate compound. Of the total energy expended in muscle contraction, only 35% is utilized for the performance of work: remaining is liberated in the form of heat, which is employed to maintain body temperature</p>
<p>Bone</p> <p>Along bone has 3 distinct regions Epiphysis, Diaphysis and Metaphysis</p> <p>3 types of cells, Osteoblast, Osteoclast & Osteocytes</p>	<p>Appendicular Skeleton</p> <p>consists of 126 bones</p> <p>Divisions: Pectoral girdle + Fore limb & Pelvic girdle & Lower limb</p> <p>Total no of bones associated with Pectoral girdle = 64 bones (both sides)</p> <p>2-Clavicle, 2-scapula in pectoral girdle both sides (Total 4)</p> <p>Anterior limb (Arm) bones: 2-humerus, 2-radius, 2-ulna, 16-carpals, 10-metacarpals & 28 phalanges in both both limbs</p> <p>Total no of bones associated with Pelvic girdle = 62</p> <p>2-coxal bones, posterior limbs include, 2-femur, 2-tibia, 2-fibula, - 2-patella, 14-tarsals, 10-metatarsals & 28 phalanges</p>	<p>Disorders of Skeleton</p> <p>Mainly: Disc slip, Spondylosis, Sciatica & Arthritis</p> <p>Muscles, it's types & Structure</p> <p>Half of the human body mass</p> <p>3 types of muscles: Skeletal, Cardiac & Smooth</p> <p>Muscle fibre diameter 10-100um</p> <p>Myofibrils diameter 1-2um</p> <p>Myosin filament is thick, 16nm in diameter</p> <p>Actin filament is thin, 7-8nm in diameter</p> <p>The Sliding Filament Model of muscle contraction proposed by Hugh Huxley & Jean Hanson in 1954</p>	<p>Muscle Problems</p> <p>Cramps, Muscle Fatigue & Tetany</p> <p>Muscle cramps often occur after exercise or at night, lasting a few seconds to several minutes</p>
<p>Cartilage</p> <p>Only one type of cells chondrocytes</p> <p>3 types of cartilage, Hyaline, - Elastic & Fibrocartilage</p>	<p>Axial Skeleton</p> <p>Consists of skull, vertebral column, sternum and ribs</p> <p>Skull parts; Cranium, facial and Ear ossicles</p> <p>Cranium 8 bones</p> <p>Facial 14 bones</p> <p>Ear ossicles 6 bones</p> <p>1 hyoid bone</p> <p>In Cranium, 2 paired bones named Parietal and Temporal bones</p> <p>In Cranium, 4 unpaired bones named Sphenoid, Occipital, Frontal and Ethmoid</p> <p>In Facial bones, 6 paired bones named Palatine, Maxilla, Lacrimal, Nasal, Inferior concha and Zygomatic</p> <p>In Facial bones, 2 unpaired bones named Vomer & Mandible</p> <p>In Ear ossicles, 3 paired bones named Malleus, Incus & Stapes</p>	<p>Energy of muscle contraction</p> <p>ATP & Phosphocreatine</p> <p>ATP: Immediate source of energy for muscle contraction</p>	

