

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