

Musculoskeletal System Long Bones Short Bones Flat Bones Irregular Bones Articulating Bones Synovial Joints Cartilage Tendons Ligaments
 Freely Moveable Joints Ball and Socket Hinge Flexion Extension Plantar Flexion Dorsi Flexion Rotation Adduction Abduction **Muscular System**
 Prime mover (Agonist) Antagonist Antagonistic Pairs Isotonic Muscle Contraction Isometric Muscle Contractions **Cardio-respiratory System**
 Gaseous Exchange Alveoli Inhale Exhale Diffusion Spirometer Trace Tidal Volume Expiratory Reserve Volume Inspiratory Reserve Volume
 Residual Volume Vital Capacity Cardiovascular System Oxygenated blood Deoxygenated blood Heart rate Arteries Veins Capillaries Diastole
 Systole Cardiac Cycle Blood Pressure Vasoconstriction Vasodilation Stroke Volume Cardiac Output **Aerobic Exercise Anaerobic Exercise Intensity**
 Lactic Acid Excess Post-exercise Oxygen Consumption (EPOC) Delayed Onset Muscle Soreness (DOMS) Fatigue Hypertrophy

The Structure and Function of the Skeleton

Four types of Bones:

Flat - quite large and protect vital organs
Long - enable gross movements
Short - enable finer, controlled movements
Irregular - specifically shaped to protect

Articulating Bones:

Bones that meet at a joint to allow movement.
 E.g. Shoulder: scapula, clavicle, humerus
 Elbow: humerus, radius, ulna

Functions of the Skeleton

Support

For muscles and vital organs. Without support the body would be a mass of soft tissue that was unable to move

Protection

Of vital organs such as the cranium, a flat bone, protecting the brain. It reduces the chance of injury

Movement

Occurs at the joints when muscles contract

Shape & Structure

Maintaining basic form of our body and providing attachment for our muscles

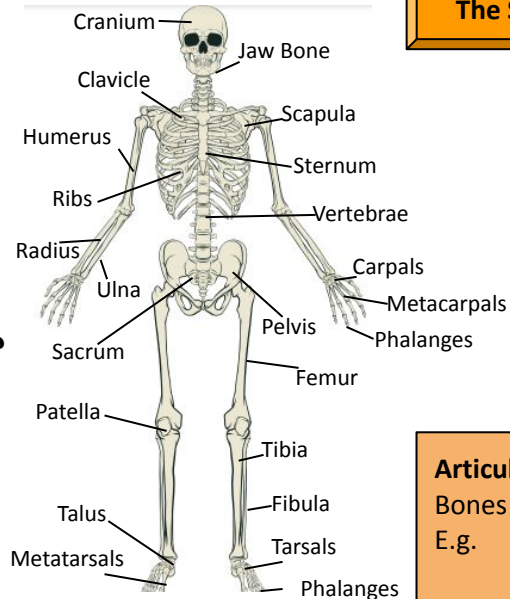
Blood cell production

Takes place in the bone marrow. Red blood cells, white blood cells and platelets

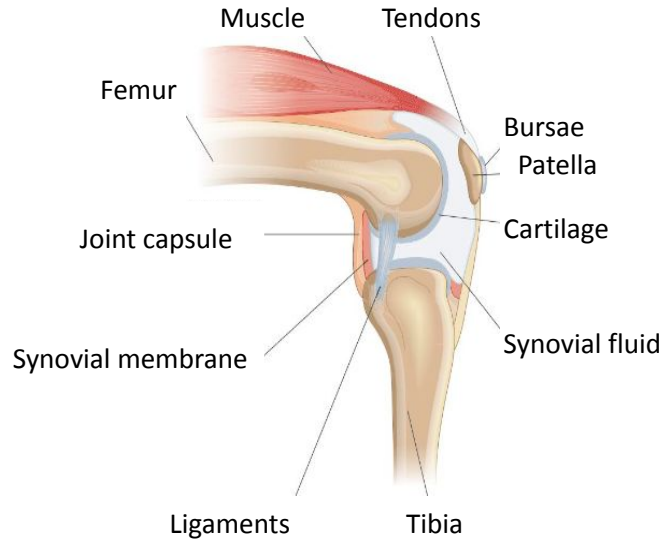
Storage of Minerals

Essential for major body functions. Links to the general health of an athlete.

Structure of the Skeleton



Known as freely moveable joints and are the most common type of joint in the human body. Located at the shoulder, elbow, hip, knee and ankle.



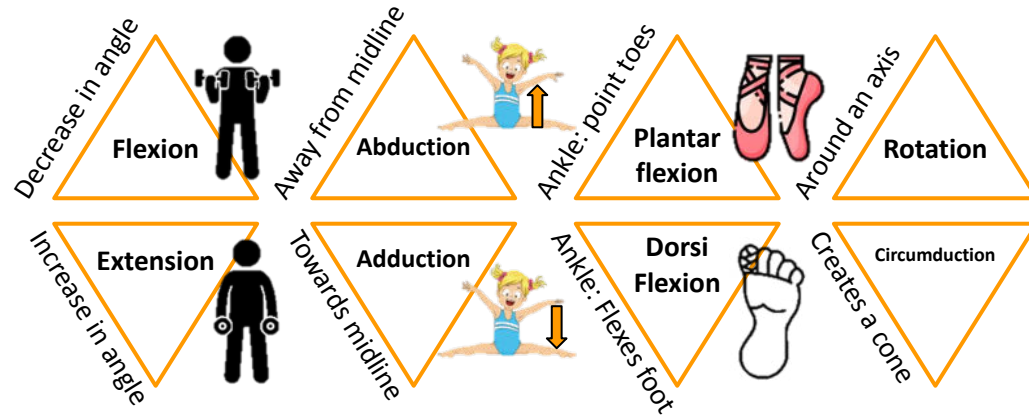
Different types of freely moveable joints allow different types of movement.

Ball and Socket: Shoulder and hip. Can move away and towards the body and rotate. The most moveable joint.

Hinge: Elbow, knee and ankle. Only move in one direction, towards and away from each other

Structure and Function of the Muscular System

Joint Action and Movements



The Muscular System

Major Muscle Groups that operate at the following joints:

Shoulder: Deltoid, trapezius, pectorals, latissimus dorsi, biceps, triceps, rotator cuff

Elbow: Biceps, triceps

Hip: Gluteals, hip flexors

Knee: Quadriceps group, hamstring group

Ankle: Tibialis anterior, gastrocnemius

