

Summer Task:

Having an understanding of body systems is imperative in the sports industry so that professionals can help support people who are taking part in sport and exercise. The human body is made up of many different systems that interrelate to allow us to take part in a huge variety of sport and exercise activities. For example, an athlete can go from rest to sprinting in a matter of seconds, whereas an endurance athlete can continue exercising for many hours at a time.

In order to appreciate how each of these systems function, you will explore the structure of the skeletal, muscular, cardiovascular, respiratory and energy systems as well as additional factors which affect sport and exercise performance. The anatomy and physiology of each body system and their processes are very different but work together to produce movement. You will gain a full appreciation of how the body is able to take part in sport and exercise through understanding the interrelationships between these body systems.



Over the summer we would like you to investigate the following areas and produce research posters created by yourself on the following areas. It is important you design them and you don't just copy and paste the information from the internet. This information we will cover in more detail over the first two terms and it is vital you have an understanding of it, as it is the basics of the body systems for the Unit 1 exam.

Skeletal System Poster

- ❑ Task 1 - Create a poster of the bones of the body, labeling the following major bones in the body.

Cranium, Clavicle, Ribs, Sternum, Scapula, Humerus, Radius, Ulna, Carpals, Metacarpals, Phalanges, Pelvis, Vertebral Column (cervical, thoracic, lumbar, sacrum, coccyx), Femur, Patella, Tibia, Fibula, Tarsals, Metatarsals

Colour which ones make up the axial skeleton and which ones make up the appendicular.

- ❑ Task 2 - Five types of bones in the human body with examples of each and what their function is

Long, Short, Flat, Irregular, Sesamoid

- ❑ Task 3 - Types of joints in the human body

Fixed (Fibrous), Slightly Movable (Cartilaginous), Synovial (Freely Movable)

- ❑ Task 4 - The types of synovial joints in the human body

Hinge, ball & socket, gliding, condyloid, saddle, pivot

Muscular System Poster

- ❑ Task 1 - The three muscles types, an example of each and their function/characteristics

Cardiac, Skeletal, Smooth

- ❑ Task 2 - Label the major skeletal muscles of the human body

Deltoid, Pectorals, Biceps, External Obliques, Abdominals, Hip Flexors, Quadriceps, Tibialis Anterior, Trapezius, Deltoid, Triceps, Latissimus Dorsi, Erector Spinae, Gluteals, Hamstrings, Gastrocnemius, Soleus

Respiratory System Poster

- ❑ Task 1 - Label the main structures of the respiratory system.

Trachea, Mouth, Nasal Cavity, Larynx, Pharynx, Bronchi, Bronchioles, Alveoli, Lungs, Ribs, Intercostal Muscles, Diaphragm, Epiglottis

- ❑ Task 2 - Explain what happens during inspiration and expiration

Cardiovascular System Poster

- ❑ Task 1 - Label the main structures of the cardiovascular system.

Atria, Ventricles, Bicuspid Valve, Tricuspid Valve, Semilunar Valves, Septum, Aorta, Vena Cava, Pulmonary Artery, Pulmonary Veins, Capillaries

- ❑ Task 2 - Describe and explain the role of the blood vessels in the body.

Arteries, Veins, Capillaries

- ❑ Task 3 - Explain the function of the cardiovascular system, under the following headings:

Delivery of oxygen & nutrients, Removal of waste products (carbon dioxide & lactate), Thermoregulation (vasoconstriction & vasodilation), Fight Infection, Clot Blood