

Unit 1 - Anatomy and Physiology

Skeletal – The bones and joints that the human body is composed of. How do bones grow?

Muscular – The muscles that make up the human body. Different types of contraction and the structure of fibres.

Respiratory – Lung Volumes. How is breathing controlled? Gaseous exchange.

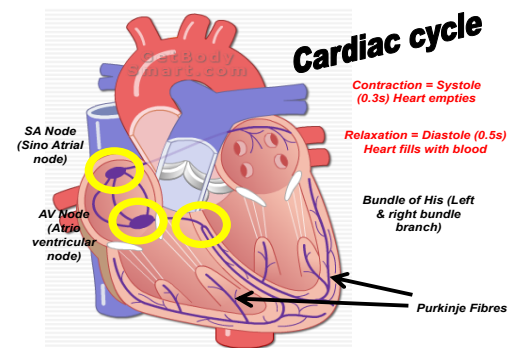
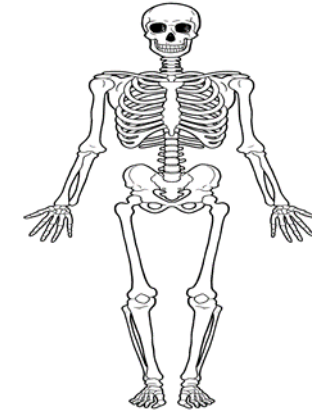
Cardiovascular - The structure and function of the heart and blood vessels.

Energy – The 3 energy systems. What is ATP? How do we use the energy systems during sports performance?

Adaptations – The long-term changes to our body after a sustained period of exercise.

Responses – The short-term changes to our body after /during a single exercise session.

Additional factors – Situational or individual factors that can impact upon the systems of the body.



Command Words:

AO1 Demonstrate knowledge -

Command words: describe, give, identify, name, state.

AO2 Demonstrate understanding -

Command words: describe, explain, give, name, state.

AO3 Analyse –

Command words: analyse, assess.

AO4 Evaluate -

Command words: assess, evaluate.

AO5 Make connections -

Command words: analyse, assess, discuss, evaluate, to what extent.

Wider experiences and opportunities:

All students will be encouraged towards further wider reading on human anatomy.

Experiences within a school. Personal Training and Sports Science industry.

Section A – Skeletal System

A1 Structure of skeletal system

Understand how the bones of the skeleton are used in sporting techniques and actions.

A2 Function of skeletal system

A3 Joints

A4 Responses of the skeletal system to a single sport or exercise session

A5 Adaptations of the skeletal system to exercise

A6 Additional factors affecting the skeletal system

Section B – Muscular System

B1 Characteristics and functions of different types of muscles

B2 Major skeletal muscles of the muscular system

B3 Antagonistic muscle pairs

B4 Types of skeletal muscle contraction

B5 Fibre types

B6 Responses of the muscular system to a single sport or exercise session

B7 Adaptations of the muscular system to exercise

B8 Additional factors affecting the muscular system

Section C – Respiratory System

C1 Structure of the respiratory system

C2 Function

Understand the function of the respiratory system in response to exercise and sports performance.

C3 Lung volumes

Understand the lung volumes and the changes that occur in response to exercise and sports performance.

C4 Control of breathing

Understand how breathing rate is controlled in response to exercise and sports performance.

C5 Responses of the respiratory system to a single sport or exercise session

C6 Adaptations of the respiratory system to exercise

C7 Additional factors affecting the respiratory system

Section D – Cardiovascular System

D1 Structure of the cardiovascular system

D2 Function of the cardiovascular system

D3 Nervous control of the cardiac cycle

D4 Responses of the cardiovascular system to a single sport or exercise session

D5 Adaptations of the cardiovascular system to exercise

D6 Additional factors affecting the cardiovascular system

Section E – Energy System

E1 The role of ATP in exercise

E2 The ATP-PC (alactic) system in exercise and sports performance

E3 The lactate system in exercise and sports performance

E4 The aerobic system in exercise and sports performance

E5 Adaptations of the energy system to exercise

E6 Additional factors affecting the energy systems