

YEAR 10 GCSE Unit 3 Overview

You will learn about:

Paper 1 - The human body and movement in Physical Activity and Sport

Applied anatomy and physiology

You will be able to:

- Demonstrate knowledge and understanding of factors that underpin performance and involvement in physical activity and sport
- Apply knowledge and understanding of factors that underpin performance and involvement in physical activity and sport Analyse and evaluate factors that underpin performance and involvement in physical activity and sport

<p>Lesson Overview</p> <ul style="list-style-type: none">• The pathway of air and gaseous exchange.• Blood vessels• Structure of the heart and the cardiac cycle (pathway of blood).• Cardiac output and stroke volume (including the effects of exercise).• Mechanics of breathing and interpretation of a spirometer trace.• Aerobic and anaerobic exercise.• Recovery/EPOC.• The short and long term effects of exercise.	<p>Key Words</p> <p>Cardio Respiratory System - describes the respiratory system and the cardiovascular system working together.</p> <p>Gaseous exchange The process where oxygen and carbon dioxide are exchanged from the blood to the air in the alveoli.</p> <p>Hemoglobin – protein found in the red blood cells that transports oxygen and Carbon Dioxide around the blood.</p> <p>Alveoli – small air sacs in the lungs where gaseous exchange takes place</p> <p>Capillaries – network of microscopic blood vessels. They are only one cell thick</p> <p>Diffusion pathway – the distance travelled during diffusion – diffusion pathway is short for gaseous exchange.</p> <p>Inhalation / inspiration – process of breathing in</p> <p>Exhalation / expiration – process of breathing out.</p> <p>Expiratory reserve volume – amount of air that can be forced out after tidal volume – decrease during exercise</p> <p>Inspiratory reserve volume - amount of air that can be forced in after tidal volume – decrease during exercise</p> <p>Residual Volume – the amount of air that remains in the lungs after maximal expiration – no change during exercise.</p> <p>Tidal Volume – the normal amount of air inhaled per breath. Tidal volume increase with exercise.</p>
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	<p>Vital capacity – the largest volume of air that can be forcibly expired after the deepest possible inspiration.</p> <p>Stroke Volume – volume of blood pumped out of the heart.</p> <p>Cardiac Output the volume of blood ejected from the heart in one minute.</p> <p>Vasoconstriction – narrowing of the blood vessels</p> <p>Vasodilation – widening of the blood vessels to increase blood flow.</p> <p>Aerobic exercise – Working at low moderate intensity so your body has time to use oxygen</p> <p>Anaerobic exercise – working for short periods of time at a high intensity without oxygen for energy production</p> <p>Lactic Acid - mild poison and waste product of anaerobic respiration</p> <p>Excess Post – exercise Oxygen consumption (EPOC) the amount – the amount of oxygen needed to recover after exercise.</p> <p>Delayed Onset Muscle Soreness – the pain you feel in your muscles the day after you exercise.</p> <p>Fatigue – feeling of extreme or severe tiredness</p> <p>Hypertrophy – the enlargement of an organ or tissue caused by an increase in the size of its cells.</p>
<p>Suggested reading or support available</p>	<p>Cross curricular</p> <p>SMSC:</p> <p>Cultural aspect of different sports Working together Respecting other views Olympic Values Etiquette</p> <p>Literacy:</p> <p>Key Words Giving Feedback to others</p> <p>Numeracy:</p> <p>Measurements, distances, times, bearing.</p>