

<p>Topic: Haberdashers’ Abraham Darby Paper 1 – Summer 1 - C&P - Training Thresholds, Anaerobic, Aerobic, Exercise Recovery Process, Diet, Nutrition</p>		<p>Duration: 5 weeks</p>	<p>Composite: End of topic test, plus upcoming year 10 Exam window (AQA GCSE PE paper 1)</p>
<p>Key vocabulary:</p>	<p>Core knowledge Components</p>	<p>Powerful knowledge components crucial to commit to long term memory</p>	<p>Links to previous and future topics</p>
<p>FITT Maximum Aerobic Anaerobic intensities endurance calculate</p> <p>Aerobic Anaerobic Intensity Duration Oxygen Carbon-Dioxide</p> <p>Excessive Exercise Oxygen Lactic Acid Consumption Tidal Volume Inspiration Expiration</p>	<p><u>Training Thresholds</u> -Calculating intensities to optimise training effectiveness. Calculate the aerobic / anaerobic training zone: Calculate Maximum Heart Rate; Aerobic training (60-80% MHR); Anaerobic training (80-90% MHR) -Consider altering FITT (frequency/intensity/time/type to determine fitness aim (circuit training). -Calculate One Rep Max as part of weight training. Relevant to: - Strength/power training (high weight/low reps) above 70% ORM, approx. 3 sets of 4-8 reps). Muscular endurance (low weight/high weight) below 70% ORM, approx. 3 sets of 12-15 reps).</p> <p><u>Aerobic/Anaerobic Training</u> -Aerobic Exercise – Training with oxygen to allow for a ‘steady state of exercise’. Training should be for long durations but for a relatively low intensity. -Anaerobic training – Training without the use of oxygen for fuel. Oxygen used will be that already stores within the working muscles. As a result anaerobic training is of a short duration, but of a high intensity.</p> <p>Students must also have a practical example to link to both aerobic and anaerobic training. Marathon running is an example of aerobic training as this is a steady state exercise that requires low intensity with a long duration. Sprinting is an anaerobic exercise as this requires short bursts of high intensity activity.</p> <p><u>EPOC/Oxygen Debt</u> -EPOC refers to ‘excessive post exercise oxygen consumption’ and is described as the inflated depth and frequency of breathing rate immediately after anaerobic exercise or activity. -Oxygen Debt is the oxygen deficit i after the body uses this up at the commencement of anaerobic exercise. This only occurs after anaerobic training. The oxygen debt must be immediately paid back after the completion of exercise and is seen by - Rapid breathing -Deep breathing (increase in tidal volume)</p>	<p>Recognise the change of training thresholds The advantages and disadvantages of these within performance.</p> <p>Definition of the terms: -aerobic exercise -anaerobic exercise. Summary of aerobic exercise (glucose + oxygen → energy + carbon dioxide + water). Summary of anaerobic exercise (glucose →energy + lactic acid).</p> <p>Sporting example of aerobic and anaerobic training, and reason why.</p> <p>EPOC = excessive post exercise oxygen consumption. (Deep and rapid breathing after exercise to pay back to oxygen used up during exercise.</p> <p>Oxygen Debt – The oxygen deficit that occurs after the oxygen is used up during anaerobic activity.</p>	<p>Individual and professional physical training to improve health, well-being and fitness. Including the understanding of the human body (Biology).</p> <p>Anatomy and physiology of the human body – Biology. Previous Fitness units of work (KS3).</p>

<p>Waste</p> <p>Vigorous Cool Down Diet Protein Carbohydrate Energy Hydrate Dehydrate</p> <p>DOMS Soreness Stiffness Fatigue Massage Manipulation</p> <p><u>Diet / Nutrition</u> Carbohydrate, vitamins, minerals, protein, calories, energy, hydration, expenditure.</p>	<p>-Less inspiratory reserve volume -Less expiratory reserve volume -Build up of lactic acid</p> <p><u>The recovery process from vigorous exercise</u> Students must be aware of the following strategies, and how they assist in the recovery process: Cool down – Allows athlete the maintain elevated breathing but with a slow and gradual decline. This will maintain even blood flow, decrease heart rate gradually and aid the removal of lactic acid. Manipulation of diet – In order to ensure an athletes body is equipped they must up their protein intake to build and grow muscle, must have a decent amount of carbohydrate to be used as long term energy and must up their fluid intake to ensure they don't become dehydrated. (2 litres per day) Coaches can incorporate ICE BATHS and massage into their recovery routine, this can also aid the removal or lactic acid and DOMS.</p> <p>DOMS = The delayed onset of muscle soreness. DOMS tends to arrive around 2 days after rigorous exercise and is noticed by heavy, cramping, stiff and tender muscle groups.</p> <p>Following the methods to recover from exercise, include the reasoning for their use:</p> <ul style="list-style-type: none"> - Cool down – maintain elevated breathing rate / heart rate / blood flow/ stretching/ removal of lactic acid. - Manipulation of diet – rehydration / carbohydrates for energy - Ice baths / massage – prevention of delayed onset of muscle soreness (DOMS). <p><u>Diet / Nutrition</u></p> <ul style="list-style-type: none"> - Energy Use measured in Kcal. Where it is from. Average calorie intake for male and female, dependant on age, gender, height, energy expenditure (exercise). - Nutrition – reasons for having a balanced diet. Reasons why a balanced diet is required. - The role of Carbohydrates, fat, protein and vitamins/minerals. Including the functions of the food groups and required percentages for a balanced diet. - Reasons for maintaining hydration. Definition of hydration, the effects of dehydration on the body. 	<p>Lactic acid is created during this process.</p> <p>Cool Down Ice Baths Massage Diet All ways to prevent long lasting negative effects of exercise and reduce chance of injury.</p> <p>DOMS = Delayed onset of muscle soreness. Two days after exercise, noticed by stiff heavy sore muscles.</p> <p><u>Recovery Process</u> Independently justify the relevance to difference sporting activities.</p> <p><u>Diet / Nutrition</u> Identify change in healthy diet for individual needs (calorie intake). Evaluate the consequences of dehydration to performance in different sporting activities.</p>	<p>Practical PE lessons in KS3 & KS4.</p> <p>Link to Food lessons with specific relevance to a balanced diet and how to achieve this. Biology and PE (Fitness) units covered also.</p>	
<p>Impressive reading</p>	<p>Impressive speaking</p>	<p>Impressive writing</p>	<p>Resilience</p>	<p>Employability via:</p>
<ul style="list-style-type: none"> • Use of resources to obtain the correct information from a source. 	<ul style="list-style-type: none"> • Recalling answers in quiz style format. • Reading answers alone for comparison with 	<ul style="list-style-type: none"> • Use of AO1, AO2, and AO3 assessment objective. 	<p>'Bounce back ability' after feedback or incorrect answers. Constant determination to improve by ensuring they take on and respond to feedback.</p>	<ul style="list-style-type: none"> - Peer/Team work to come about the best solution or answer. - Responding to instructions and feedback in a timely manner similar to that in the work place.

<ul style="list-style-type: none"> • Reading exam questions and deciphering what is being asked. • Reading feedback from teachers to ensure action is taken accordingly 	<p>the class and peer evaluation.</p> <ul style="list-style-type: none"> • Discuss answers with peers and teacher. 	<p>Extended answer techniques such as WALEAL and evaluation techniques in extended 9 mark questions.</p>		<p>Leading groups and teams in theoretical tasks to ensure time efficiency and demonstrate planning.</p>
<p>Communication and Interaction Cognition and Learning SEMH Physical/Sensory</p>	<p>Information loading, ensuring work and instructions and distributed into chunks.</p> <ul style="list-style-type: none"> -Visual demonstrations given where possible. -Communication with student on consideration of seating plan, location in classroom, board pen colour, paper and resource colours and size of font. - Language use and terminology specially broken down. 			