

A Level Learning Programme Year 1

Half Term/Term	Learning objective	Learning activity	Resources	Homework & Unit Test
Term 1 Cardiovascular System	Understanding of the impact of physical activity and sport on the health and fitness of the individual.	Health (heart disease, high blood pressure, effects of cholesterol, stroke). Fitness (cardiac output – trained and untrained individuals, maximal and sub-maximal exercise).	Hodder Dynamic Online Learning PE Shared Area PE work booklet	Cardiovascular System Unit Test Heart Function Questions
	The hormonal, neural and chemical regulation of responses during physical activity and sport.	Anticipatory rise. Redistribution of blood (vascular shunting vasoconstriction, vasodilation). Cardiac conduction system. Sympathetic and parasympathetic. Carbon dioxide	PE Topic on a page Sheets A Level PE book 1 A Level PE book 2	Blood Transport Questions Bohr Shift questions
	Receptors involved in regulation of responses during physical activity.	Chemoreceptor, proprioceptor, baroreceptor.		
	Transportation of oxygen.	Haemoglobin. Myoglobin. Oxyhaemoglobin disassociation curve. Bohr shift.		
	Venous return. Mechanisms.	Relationship with blood pressure (systolic, diastolic).		

	Starling's law of the heart.			A-VO2 questions
	Cardiovascular drift.			
	Arterio-venous oxygen difference (A-VO2 diff).	Variations in response to an exercise session. Variations between trained and untrained individuals. Adaptations to body systems resulting in training effect.		
Respiratory System	Understanding of lung volumes and the impact of and on physical activity and sport.	Residual volume. Expiratory reserve volume. Inspiratory reserve volume. Tidal volume. Minute Ventilation.		Respiratory System Unit Test Lung Volumes Past Paper Questions Mechanics of breathing Questions Diffusion Questions
	Gas exchange systems at alveoli and muscles.	Oxygen and carbon dioxide. Principles of diffusion and partial pressures.		
	The hormonal, neural and chemical regulation of pulmonary ventilation during physical activity and sport.	Adrenaline. Sympathetic and parasympathetic. Carbon dioxide.		
	Receptors involved in regulation of pulmonary ventilation during physical activity.	Chemoreceptor, proprioceptor, baroreceptor.		
	Impact of poor lifestyle choices on the respiratory system.	Smoking. Oxygen transport.		

Neuromuscular System	Characteristics and functions of different muscle fibre types for a variety of sporting activities.	Slow twitch (type I). Fast glycolytic (type IIx). Fast oxidative glycolytic (type IIa).		Neuromuscular System Unit Test
	Nervous system.	Sympathetic and parasympathetic		Muscle Fibre Past Paper Questions
	Role of proprioceptors in PNF.	Muscle spindles. Golgi tendon organ.		Muscle Contraction Past Paper Question
	The recruitment of muscle fibres.	Motor units. Spatial summation. Wave summation. All or none law. Tetanic.		