

Year 11 Triple Biology Curriculum Plan								
Unit		Core		Hinterland		NC Coverage	Assessment	Whole Education Opportunities
		Knowledge	Skills	Knowledge	Skills			
Biology	SB7 – Animal coordination, control and homeostasis	<ul style="list-style-type: none"> Hormones – types, where produced – key words How hormones control metabolism and menstrual cycle Diabetes – how caused with reference to hormones Thermoregulation Osmoregulation The kidneys 	<ul style="list-style-type: none"> Interpretation of key words Developing exam skills Interpreting graph data 	<ul style="list-style-type: none"> Eating habits in children that can lead to Type 2 diabetes (insulin related) Bacteria genetic engineered for production of insulin (links with Topic 3 genetics) 	<ul style="list-style-type: none"> Applying knowledge to real life situations Links to different Biology topics 	B7.1 to B7.22	<ul style="list-style-type: none"> End of topic assessment (30 marks) PR points using mixed topic assessments PLC tests (10 marks each) – 2 in this topic 	<ul style="list-style-type: none"> SMSC – How hormones affect athletes and their performance; why doping is forbidden in sports Careers – Endocrinologist Carrers – Sports Nutritionist RSHE – Puberty and Hormones
	SB8 - Exchange and transport in animals	<ul style="list-style-type: none"> Substances that need to be transported Surface area: volume ratio Factors affecting diffusion Circulatory system Structure of the heart and cardiac output Cellular respiration (aerobic and anaerobic) Core practical: Respiration rates 	<ul style="list-style-type: none"> Prefixes Ratios Calculating surface area of cubes Simple calculations using substitution Word equations for chemical reactions Interpreting scatter graphs Following practical methods Taking measurements using analogue equipment 	<ul style="list-style-type: none"> The process of reverse osmosis Scientific literacy: The first heart transplant 	<ul style="list-style-type: none"> Application of reverse osmosis knowledge to saltwater purification Reading scientific literature Applying knowledge to a medical scenario 	B8.1 to B8.12	End of topic assessment (35 marks) PR points use mixed topic assessments	<ul style="list-style-type: none"> SMSC—Debate on organ donors and myths associated with being an organ donor SMSC—Debating whether a brain transplant would be possible relating to knowledge on veins capillaries and arteries of the circulatory system Careers—Perfumer, clinical perfusion scientist, respiratory physiologist. RSHE—Ways of identifying, treating and preventing coronary heart disease and heart attacks RSHE—Scientific literacy on coronary angioplasty
	SB9-Ecosystems and material cycles	<ul style="list-style-type: none"> Food webs Abiotic factors Core practical – Quadrats and transects Biotic factors Assessing pollution Parasitism and mutualism Human impact on biodiversity Eutrophication Conservation and preserving biodiversity Food security The water cycle The carbon cycle The nitrogen cycle Rates of decomposition 	<ul style="list-style-type: none"> Sampling using quadrats Simple calculations using substitution Analysing abiotic factors using belt transects Analysing line graphs of populations 	<ul style="list-style-type: none"> Impacts on declining pollinator populations Carbon cycle - links to fuels and atmospheric science topic in chemistry (see below) and renewable/non-renewable resources in Physics (year 9), combustion topic in year 8 The symbiotic relationship between gut bacteria and humans. 	<ul style="list-style-type: none"> Identifying co-dependence of organisms in complex ecosystems Relate knowledge on ecological relationships to microorganisms 	B9.1 to B9.19	End of topic assessment (35 marks) PR points use mixed topic assessments	<ul style="list-style-type: none"> SMSC—The effect humans have on the carbon, nitrogen and water cycle. SMSC—Debating the process of culling and the impact it has on ecosystems. Careers-- Ecologist and nature conservationist. RSHE—Scientific literacy on the distribution of clean water to populations around the world. RSHE—Water borne diseases associated with not having access to clean drinking water. The purification of water for human consumption.