

**Year 11
Science Learning Programme***

TERM	TERM DATES	AREA OF SCIENCE	TOPICS
Spring	Spring Term 1 Starts: Saturday 15 January 2022 Ends: Saturday 12 February 2022 Total: five sessions	Biology	<ul style="list-style-type: none"> • Explain the role of stem cells in animals and the role of meristems in plants • Describe the features of the immune system and explain how the immune system defends the body against potential pathogens • Explain the use of selective breeding and biotechnology for the production of food items and the potential impact on the environment • Work out gene inheritance with different dominant and recessive alleles
	Spring Term 2 Starts: Saturday 26 February 2022 Ends: Saturday 26 March 2022 Total: five sessions	Chemistry	<ul style="list-style-type: none"> • Calculate the empirical formula from the ratio of atoms • Balance chemical equations, ionic equations and state symbols • Understand and explain the process of electrolysis in both molten ionic liquids and aqueous ionic solutions • Perform various calculations for the process of chemical analysis. For instance, chemical yield, concentration, isotopes and relative formula mass
Summer	Summer Term 1 Starts: Saturday 23 April 2022 Ends: Saturday 21 May 2022 Total: five sessions	Physics	<ul style="list-style-type: none"> • Describe the main features of the solar system and explain the evidence to support the origins of the universe • Explain the difference between nuclear fission and fusion in the context of the Sun and nuclear power stations • Explain how radioactive nuclei behave in terms of emission of alpha or beta particles, neutrons or gamma rays • Explain the hazards of using radioactive materials including half-life, irradiation, contamination and waste disposal
	Summer Term 2 Starts: Saturday 11 June 2022 Ends: Saturday 9 July 2022 Total: five sessions	Examination Practice	<ul style="list-style-type: none"> • Preparation for the GCSE examination with a focus on exam technique

*Topics, dates, and locations are subject to change without prior notice. Topics are intended for guidance only.