St Cuthbert Mayne School Curriculum Map 2021-2022

Department: Science

Year 13

Autumn Term 1						
Topic/Unit	Biology - Energy transfers in and between organisms	Biology - Organisms respond to changes in their environment	Chemistry - Physical Chemistry	Chemistry - Organic Chemistry		
Knowledge (Content covered)	● Photosynthesis ● Respiration ● Energy and Ecosystems ● Nutrient cycles	● Stimuli and response ● Nervous coordination ● Skeletal muscles ● Homeostasis	Thermodynamics Acids and Bases	● Optical Isomers ● Aldehydes and Ketones ● Carboxylic Acids		

Skills	Building on concepts from year 12 Developing the ability to link a number of biological concepts	Building on concepts from year 12 Developing the ability to link a number of biological concepts	Building on concepts from year 12 Developing exemplary practical skills	Building on concepts from year 12 Deepening understanding of analytical techniques		
Assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment		
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Ecologyst	Veterinarian Surgeon	Chemical Engineer	Pharmacist Materials Chemist		

Autumn Term 2						
Topic/Unit	Biology A-level	Biology A-level	Chemistry A-level	Chemistry A-level		
Knowledge (Content covered)	Energy transfers in and between organisms: • Respiration	Organisms respond to changes in their environment	Transition metals	Organic chemistry • Amines • Carboxylic		

	• Energy and nutrient cycles • Nutrient cycles	• Skeletal muscles • Homeostasis		Acids • Polymers		
Skills	Building on concepts from year 12 Developing the ability to link a number of biological concepts	Building on concepts from year 12 Developing the ability to link a number of biological concepts	Building on concepts from year 12 Developing exemplary practical skills	Building on concepts from year 12 Deepening understanding of analytical techniques		
Assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment		
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Ecologist	Veterinarian Surgeon	Chemical Engineer	Pharmacist Materials Chemist		

Spring Term 1						
Topic/Unit	Biology A-level	Biology A-level	Chemistry A-level	Chemistry A-level		

Knowledge (Content covered)	Energy transfers in and between organisms: • Respiration • Energy and nutrient cycles • Nutrient cycles	Organisms respond to changes in their environment • Skeletal muscles • Homeostasis	Transition metals	Organic chemistry • Amines • Carboxylic Acids • Polymers		
Skills	Building on concepts from year 12 Developing the ability to link a number of biological concepts	Building on concepts from year 12 Developing the ability to link a number of biological concepts	Building on concepts from year 12 Developing exemplary practical skills	Building on concepts from year 12 Deepening understanding of analytical techniques		
Assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment		
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Ecologist	Veterinarian Surgeon	Chemical Engineer	Pharmacist Materials Chemist		

Spring Term 2						
Topic/Unit	A-level Biology	A-level Biology	A-level Chemistry	A-level Chemistry		
Knowledge (Content covered)	Nerve impulses Structure and function of muscles Homeostasis	Gene Mutations Epigenetics Cloning Fingerprinting	Reactions of ions Properties of period 3	Amino acids Proteins Equilibria NMR Chromatography Organic Synthesis		
Skills	Investigation microscopy techniques Application of GCSE concepts and development of higher level thinking	Application of GCSE concepts and development of higher level thinking	Application of GCSE concepts and development of higher level thinking Developing understanding of complex theoretical ideas	Development of independent practical skills		
Assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment	End of unit exam based assessment Practical assessment		
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Medical doctor	Forensic scientist, cancer researcher	Analytical Chemist University Lecturer	Organic synthesis chemist		

Summer Term 1						
Topic/Unit	A-level Biology	A-level Chemistry				
Knowledge (Content covered)	Revision	Revision				
Skills						
Assessment	Alevel examinations	Alevel examinations				
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4						

Summer Term 2						
Topic/Unit	Biology	Chemistry				
Knowledge (Content covered)	Alevel Examinations	Alevel examinations				
Skills						
Assessment						
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4						