ALBANY ACADEMY: KS4 Science Subject Overview

Curriculum Overview for Science				
Autumn Term				
UNIT	Unit 1	Unit 2	Unit 3	Unit 4
TITLE	Health	Communicable Diseases	Acids & Alkalis	Rates of Reaction
CONTENT	Non communicable diseases Smoking & Alcohol Obesity & Heart Disease Cancer	Pathogen cells Bacterial & protest diseases Viral & Fungal diseases Immune System Vaccination	Acids Alkalis pH Neutralisation	Exothermic Endothermic Measuring rates of reaction Surface Area Temperature Concentration & Pressure Catalysts
SKILLS	• Carrying out and representing mathematical and statistical analysis • **In addition:** • recognising the importance of peer review of results and of communication of results to a range of audiences.	• Carrying out and representing mathematical and statistical analysis • using prefixes and powers of ten for orders of magnitude (e.g. tera, giga, mega, kilo, centi, milli, micro and nano	• using scientific theories and explanations to develop hypotheses • presenting observations and other data using appropriate methods • translating data from one form to another • interpreting observations and other data, including identifying patterns and trends, making inferences and drawing conclusions	• using scientific theories and explanations to develop hypotheses • presenting observations and other data using appropriate methods • translating data from one form to another • interpreting observations and other data, including identifying patterns and trends, making inferences and drawing conclusions

			• interpreting observations and other data, including identifying patterns and trends, making inferences and drawing conclusions • presenting reasoned explanations, including relating data to hypotheses	• interpreting observations and other data, including identifying patterns and trends, making inferences and drawing conclusions • presenting reasoned explanations, including relating data to hypotheses

Spring Term			
UNIT	Unit 5	Unit 6	Unit 7
TITLE	Atmosphere & Resources	Energy Resources	Biology 2
CONTENT	Carbon Emissions Global warming Climate Change Burning Fossil Fuels	Energy Resources Evaluating energy resources	Digestive Organs Enzymes Lungs & Breathing Alveoli Exchange Surfaces The heart Blood vessels Blood Nervous Organs Reactions Reflexes Endocrine Blood glucose Menstrual cucle

SKILLS	• arrying out experiments appropriately, having due regard to the correct manipulation of apparatus, the accuracy of measurements and health and safety considerations. • Presenting reasoned explanations • Presenting observations and other data using appropriate methods.	• Representing distributions of results and making estimations of uncertainty • Interpreting observations and other data, including identifying patterns and trends, making inferences and drawing conclusions. **In addition** • Carrying out and representing mathematical and statistical analysis. • Translating data from one form to another.	• planning experiments to make observations, test hypotheses or explore phenomena • making and recording observations and measurements using a range of apparatus and methods • evaluating methods and suggesting possible improvements and further investigations I**n addition:** Explaining everyday and technological applications of science; evaluating associated personal, social, economic and environmental implications; and making decisions based on the evaluation of evidence and arguments

Summer Term			
UNIT	Units 8		
TITLE	The Periodic Table		
CONTENT	Atomic Structure and the periodic table & Bonding, Structure and Properties of matter Recap (Atomic Structure and States of matter) Ionic Bonding, Giant Ionic structures.		

	Covalent Bonding and Simple covalent structures. Giant covalent structures and Metallic Bonding.		
	• using a variety of concepts and models to develop scientific explanations and understanding • developing their use of scientific vocabulary and nomenclature		