

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

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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 cycle

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 In 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
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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		