

Programme of Study - Science

We want our students to be knowledgeable, curious learners who are able to apply their learning to the real world. We want our students to be able to use scientific language confidently, plan and run investigations to test scientific theories and be able to critically analyse data and evidence provided to them. Our curriculum prepares our learners to better understand the world they live in and make informed and wise choices. The Oasis Science Curriculum prepares students with the fundamental knowledge needed to pursue a range of careers from medicine, to engineering, from astrophysics to careers in geo science.

Year 8



Year 8						
Rationale/ narrative	Our Year 8 curriculum is designed to build on the foundations created in Year 7 and prepare our students to begin more challenging content in Year 9. It is taught across six units, taking half a term each.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Periodic table and materials	Chemical reactions and the environment	Waves and Pressure	Electricity and magnetism	Energy from food	Keeping healthy
Content	The periodic table – structure History of the periodic table (EXT) Metals and non-metals Alloys (EXT) Ceramics (EXT) Polymers (EXT) Composite (EXT) Atomic Structure Electronic Configuration Ar and Mr (EXT) Alkali metals (group 1) Halogens (Group 7) Noble Gases (Group 0) Reactivity of Group 1 and 7 (EXT) Naming compounds (EXT) Writing formulae (EXT) Exothermic and endothermic reactions Testing for gases	Metals and oxygen Metals and acid reactions Acids and hydroxides Acids and carbonates Combustion Word and symbol equations (taught throughout this topic) Balancing equations (taught throughout this topic) Conservation of mass The Reactivity series Displacement reactions Extracting metals Rates of reaction (EXT) Catalysts (EXT) Fossil fuel formation Climate change Greenhouse effect (EXT) Carbon cycle Recycling	Producing sounds How sound travels Hearing sounds – The ear (EXT) Properties of sound waves Wave calculations Using sound: ultrasound and echowaves (EXT) Waves – EM waves Transverse and longitudinal (EXT) The eye and light Reflection Refraction Seeing colour (EXT) Pressure (over area) Pressure (in liquids) Pressure (in gases)	Static electricity (EXT) Conductors and Insulators Electrical circuits Current Potential difference Measuring potential difference Series and Parallel circuits Resistance in a circuit (EXT) Power in a circuit (EXT) Magnets Making Magnets Drawing magnetic fields Earth’s magnetic field Electromagnets (EXT) Using Electromagnets (EXT)	Food groups Balanced and unbalanced diets Energy in food Tissues and organs of the digestive system Digestion Absorption – diffusion, active transport, osmosis (EXT) Enzymes in the digestive system Photosynthesis Leaf adaptations – Gas exchange Root adaptation - Absorption of water Transpiration/translocation (EXT) Testing for starch	Sub cellular structures (recap) Cells, tissues, organs and systems The lungs Breathing Gas exchange The heart and blood The circulatory system The skeletal & muscular system (EXT) Aerobic respiration Anaerobic respiration Exercise and respiration Communicable vs non communicable diseases Microorganisms Pathogens Antibiotics Human defences Vaccination (EXT) Drugs & lifestyle choices (EXT)

