Key Stage 3 Curriculum Map Department: Science Subject: Biology/Chemistry/Physics Year: 9

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit Title(s)	- Chemistry Literacy - Health and Disease - Work - Pressure	- Types of reaction - Chemical Energy - Evolution	- Density Investigation - Heating and cooling - Wonders of the natural world	- Diffusion Investigation - Waves and wave properties - Maths in Physics	- Making Salts Investigation - Fieldwork investigation - Renewable Energy	- Physics HSW - Wider Science Topic
Overview / rationale & statement of importance	A high quality understanding of the world through biology, chemistry and physics. Students will develop an understanding of the worlds future prosperity and will be taught the essential aspects of the knowledge, methods, processes and uses of science. Students will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes. Students will be equipped with the scientific knowledge to understand the uses and implications of science, today and for the future. Students will be able to see connections between all 3 science and become aware of some of the big ideas underpinning scientific knowledge and understanding. Students will be encouraged to relate scientific explanations to phenomena in the world around them and start to use modelling and abstract ideas to develop and evaluate explanations. Students will be able to use practical skills and investigations by 'working scientifically'.					
Iterative Links	Year 7 & 8 – elements, particle model, separating mixtures, movement, cells, digestion	Year 7 & 8 – elements, particle model, cells, variation and interdependence	Year 7 & 8 – Particle model, movement, cells, variation and interdependence, inheritance	Year 7 & 8 – Particle Model, Light and sound, pressure	Year 7 & 8 – variation and interdependence, climate, earths resources Year 9 – evolution	All year 7, 8 & 9 topics
Knowledge & Understanding	- Variables - Graphs - Symbol Equations - Balancing Equations - Keyword retrieval - Imbalances in diet - Micro-organisms and communicable diseases - Antibiotics and painkillers - Treating diabetes - Recreational Drugs/Alchohol - Immune system - Vaccination - Work, energy and machines - pressure in gases - Pressure in liquids - Stress and calculating stress	- Atoms in chemical reactions - Combustion - Thermal decomposition - Conservation of mass - Exothermic and endothermic - Energy level diagrams - Bond energies - Charles Darwin - Natural Selection - Extinction - Preserving biodiversity - Competiton - Antibiotic resistant bacteria -	- Density practical - Energy and Temperature - Convection/conduction - Radiation and insulation - Vertebrates and Invertebrates - sexual and asexual reproduction - Reproduction in animals - unusual animal adaptations - family groups - animal behaviour and learning	- Diffusion practical - Sound waves, water waves and energy - Radiation and energy - Modelling waves - Physics Equations - Standard form - Using a calculator - Displacement - Scalar and vectors	- Making salts practical - Fieldwork - Abiotic and biotic factors - Competition - Plants - Renewable energy - Solar - Wind - Tidal	- Using equations - Biotechnology - Biomimicry - Science in the world - History of disease - Nanotechnology - Luminescence
Skills	Practical skills Working scientifically Fluency in science knowledge Enquiry processes Scientific oracy Independent study		Practical skills Working scientifically Fluency in science knowledge Enquiry processes Scientific oracy Independent study		Practical skills Working scientifically Fluency in science knowledge Enquiry processes Scientific oracy Independent study	
Literacy	- Keywords – scientific vocabulary - Glossaries given at the start of every topic - Extended writing questions - Big write tasks Spoken language – cognitively, socially and linguistically		- Keywords – scientific vocabulary - Glossaries given at the start of every topic - Extended writing questions - Big write tasks Spoken language – cognitively, socially and linguistically		- Keywords – scientific vocabulary - Glossaries given at the start of every topic - Extended writing questions - Big write tasks Spoken language – cognitively, socially and linguistically	
Numeracy	- Graph skills - Calculate results - Present observations and data - Evaluate data - Using SI units - Statistical techniques - Data analysis		- Graph skills - Calculate results - Present observations and data - Evaluate data - Using SI units - Statistical techniques - Data analysis		- Graph skills - Calculate results - Present observations and data - Evaluate data - Using SI units - Statistical techniques - Data analysis	

	- Use and derive simple equations		- Use and derive simple equations		- Use and derive simple equations	
Assessment	Welcome to year 9 test Health and disease End of topic Assessment Big Writes – Health and Disease	Types of reaction and Chemical Energy end of topic assessment Evolution end of topic assessment Big Writes – Evolution	Heating and Cooling end of topic assessment Wonders of the natural world end of topic assessment Big Writes – Heating and cooling, Diffusion write up Spring 1 Assessment	Waves and wave properties end of topic assessment Big Writes – Making Salts write up	Renewable Energy end of topic assessment Summer 1 Assessment Big Write - fieldwork	Physics HSW Assessments Big Write – Wider Science project
Cross-curricular	Maths English Geography	Maths English Geography	Maths English Geography	Maths English Geography	Maths English Geography	Maths English Geography PSHE