



(Science) Year 7 Long Term Plan

Rationale (with end points): In Year 7 our aim is to build on the knowledge and understanding of Science gained during Key Stage 2 through the three main disciplines of biology, chemistry and physics and provide a firm foundation for further study. All pupils will be taught essential aspects of the knowledge, methods, processes and uses of science based on a knowledge-rich curriculum which is organised into 10 central topics allowing pupils to develop in confidence when starting KS4. In biology, pupils will have learned the knowledge based on the topics of organisms, genes and ecosystems where they will learn about animal and plant cells and how these can become specialised. Pupils will also learn about plant and human reproduction and the interactions of both with their environment. In chemistry, pupils will have learned the knowledge based around the topics of matter, reactions and the earth focussing on particle model to explain how matter behaves and the different separating techniques used by scientists. Pupils will also look at the common reactions in chemistry such as metal-acid, displacement reactions and neutralisation. Pupils also learn about the Earth's structure and three types of rocks that make up the rock cycle. In physics, pupils will have learned the knowledge centred around the topics of forces, energy, waves and electromagnets. Pupils will learn about gravity, weight and mass and explore movement in terms of speed and relative motion. Pupils will have measured current and potential difference in circuits and learn about static electricity. For energy, students will learn about energy stores and energy dissipation. Sound and light will be learned in the waves topic.

Term	Topic	Knowledge	Skills	Reading /wider reading
Autumn term 1	<ul style="list-style-type: none"> Organisms 1 Matter 1 	<ul style="list-style-type: none"> Cells Movement Particle Model Separating Mixtures 	<ul style="list-style-type: none"> Practical Skills – Microscopes Application Skills – Scientific method, theories and laws. Practical Skills – Separation Techniques Draw diagrams 	Wider Reading 1: Selected Article (Scientific Paper/Magazine)
Autumn 2	<ul style="list-style-type: none"> Reteach Week 1 Forces 1 Genes 1 	<ul style="list-style-type: none"> Speed Gravity Variation 	<ul style="list-style-type: none"> Graphical Skills – graphs and tables. Mathematical Skills - Calculations & Formulae 	Wider Reading 2: Selected Article (Scientific Paper/Magazine)

		<ul style="list-style-type: none"> Human Reproduction 	<ul style="list-style-type: none"> Extended Writing – Factors affecting foetus development 	
Spring 1	<ul style="list-style-type: none"> Reteach Week 2 Reactions 1 	<ul style="list-style-type: none"> Metals and non-metals Acids and Alkalis 	<ul style="list-style-type: none"> Practical Skills – Neutralisation Data analysis – Patterns and trends 	Wider Reading 3: Selected Article (Scientific Paper/Magazine)
Spring 2	<ul style="list-style-type: none"> Energy 1 Reteach Week 3 Ecosystems 1 	<ul style="list-style-type: none"> Energy Transfers Energy Costs Interdependence Plant Reproduction 	<ul style="list-style-type: none"> Practical Skills – Experimental Method Graphical Skills – Charts. Graphs and tables Data analysis - 	Wider Reading 4: Selected Article (Scientific Paper/Magazine)
Summer 1	<ul style="list-style-type: none"> Earth 1 Reteach Week 4 	<ul style="list-style-type: none"> Earth Structure Universe 	<ul style="list-style-type: none"> Extended Writing Skills – Rock Cycle 	Wider Reading 5: Selected Article (Scientific Paper/Magazine)
Summer 2	<ul style="list-style-type: none"> Waves 1 Electromagnets 1 Reteach Week 5 	<ul style="list-style-type: none"> Sound Light Potential Difference Current 	<ul style="list-style-type: none"> Practical Skills – Experimental Method Mathematical Skills – Measure angles Practical Skills – Building Circuits and taking measurements. Graphical skills – tables and graphs. 	Wider Reading 6: Selected Article (Scientific Paper/Magazine)