

Landau Learner Curriculum Overview

Subject: Science

Director of Learning: Mr D Bloomfield

Year: 8

Curriculum organisation				
Students are taught in mixed ability for the equivalent of four single lessons per week. Students taught by one tutor for all lessons will study one unit at a time. Students with two science teachers will study a different topic with each teacher and have two exercise books. Across all units students will be taught; Scientific attitudes, experimental skills and investigations, analysis, evaluation and measurement.				
What topics will students be studying this year? Includes links to National Curriculum, Curriculum Intent and Prior Related Learning*				
Term 1:	Term 2:	Term 3:	Term 4:	Term 5:
<ul style="list-style-type: none"> Contact forces and pressure Electromagnets and magnetism 	<ul style="list-style-type: none"> Periodic table & elements Breathing & digestion 	<ul style="list-style-type: none"> Chemical energy and types of reactions Respiration and photosynthesis 	<ul style="list-style-type: none"> Work, heating and cooling Wave effects and properties 	<ul style="list-style-type: none"> Climate and Earth resources Evolution and inheritance
<p>*Links: Prior learning KS2: Circuit symbols (year 4); Air resistance (year 6)</p> <p>National Curriculum: Motion and forces; Electricity and electromagnetism</p> <p>Curriculum Intent: Students are introduced to different types of forces and practise calculations to determine values in physics equations. Students learn to rearrange equations.</p>	<p>*Links: Prior learning KS2: Body parts and how they interact (year 4)</p> <p>National Curriculum: The Periodic Table; Nutrition and digestion; Gas exchange systems</p> <p>Curriculum Intent: Students learn about the periodic table as a scientific construct developed and improved through scientific discovery and experimentation. Students learn about breathing (as a gas exchange mechanism) and nutrition (supplying glucose) as a foundation to prepare for the respiration topic.</p>	<p>*Links: Prior learning KS2: Materials and properties (year 6)</p> <p>National Curriculum: Chemical reactions; Energetics; Material cycles and energy; Photosynthesis and Cellular respiration</p> <p>Curriculum Intent: Students learn the concept of energy stored within substances as chemical energy and the concept of exothermic and endothermic reactions transferring energy. Students consolidate their knowledge of gas exchange and glucose production to discover why these processes are so important in organisms.</p>	<p>*Links: Prior learning KS2: Light travelling as waves (year 4)</p> <p>National Curriculum: Energy in matter; Waves – light and sound</p> <p>Curriculum Intent: Students use practical examples of light waves to make drawings and calculations of wave effects.</p>	<p>*Links: Prior learning KS2: Inheritance in pets (Year 4); The scientific ideas of Darwin and Anning (Year 4); Classification (year 6)</p> <p>National Curriculum: Earth and atmosphere; Genetics and evolution</p> <p>Curriculum Intent: Students build on existing knowledge of climate to discover the factors that impact our climate. Students are encouraged to come up with potential solutions to environmental concerns – including testing biodegradable plastics in British Science Week activities.</p>
Equipment needed for sessions:		What can you do to support your child?		
<ul style="list-style-type: none"> Science exercise book Calculator Science teachers will issue the text books (as required) in session and collect these back at the end of each session (ISBN-13: 978-0198408253 if you wish to purchase a copy for home) 		<ul style="list-style-type: none"> Encourage your child to read/watch/listen to the news on a daily basis and discuss science stories with them (climate change/ medical developments) Encourage them to complete the homework tasks they are set by their Science teachers to a high standard, asking them to show you the finished work Encourage them to use www.senecalearning.com to work through science quizzes 		
How will learning be assessed and progress measured?		Extension and enrichment activities:		
<ul style="list-style-type: none"> Science baseline assessment Marking of written is carried out on a regular basis in line with the College policy End of unit test for each unit End of year summative assessment. Regular peer and self-marking. 		<ul style="list-style-type: none"> Eco Club extension – every week A Thursday Science Wow – every week A Thursday Opportunities to enter school science competitions British Science week activities 		