Landau Learner Curriculum Overview

Subject: Science **Director of Learning: Mr D Bloomfield** **Year: 7**

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:**
• Lab Safety • Speed and gravity (physics) • Voltage, resistance and current (physics)	• Particle model and • Separating mixtures (chemistry) • Movement and cells (biology)	• Metals, acids and alkalis (chemistry) • Interdependence and plant reproduction (biology)	• Energy costs and transfer (physics) • Earth structure and universe (chemistry)	• Variation and human reproduction (biology) • Sound and light (physics)
*Links: **Prior learning KS2**: Gravity and forces (year 6); Circuits (year 6) **National Curriculum:** Motion and forces; Electricity and electromagnetism; Current electricity **Curriculum Intent:** Develop emerging knowledge, literacy, numeracy and practical skills. Students are introduced to experimental design. Students explore concepts around current.	*Links: **Prior learning KS2**: The human body (year 3/4); Diet and lifestyle (year 3/4); Body systems (year 6); Materials and Chemical changes (year 6); States of matter (year 6); Separating substances (year 6) **National Curriculum:** Particulate nature of matter; Cells and organisation; the skeletal and muscular systems **Curriculum Intent:** Students are introduced to atoms as fundamental building blocks before building on this knowledge to examine substances, compounds and mixtures. Students discover cells as the basic unit of life and gain a solid foundation of their properties.	*Links: **Prior learning KS2:** Life cycles (year 6); Plant structure and reproduction (year 6) **National Curriculum:** Chemical reactions; Reproduction in plants; Interactions and interdependencies **Curriculum Intent:** Students build on their knowledge of chemistry from term 1 to explore acids and alkalis and their reactions with other substances. Students grow their understanding of interactions between living things and their interdependence.	*Links: **Prior learning KS2**: Fossils (year 3); The Solar system (year 6); Materials and insulation (year 7) **National Curriculum:** Energy changes and transfers Space physics; Earth and atmosphere **Curriculum Intent:** Students investigate the energy transfers between components in systems. Students build on their knowledge of our Earth and its place in the Universe to carry out a Space-themed project.	*Links: **Prior learning KS2**: Light, reflection and shadows (year 3); Variation in humans (year 4/5); Classification (year 6); Growth, development and puberty (year 6) **National Curriculum:** Reproduction in humans ; Genetics and evolution; Waves – sound and light **Curriculum Intent:** Students explore the diversity of human characteristics and explore the origins of this diversity (inheritance or environment). Students learn that development can be shaped by environmental factors (nature/nurture). Students investigate waves and their effects and record the output of their investigations.

Equipment needed for sessions:	**What can you do to support your child?**
• 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: 978-0198408246 if you wish to purchase a copy for home)	• 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:**
• 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	• Eco Club extension – every week A Thursday • Science Wow – every week A Thursday • Intense Science (targeted students on a rota basis) • Opportunities to enter school science competitions • Periodic table challenge (term 3) • Visits from The Bumblebee Conservation Trust / Stardome