Year 7 SCIENCE

Overall Intent:
Students will:

- Maintain curiosity through exploring the ten Big Ideas of Science
- Acquire the full range of skills to learn to apply knowledge, critique information and actively solve problems
- Have a science education to progress their understanding of the issues that shape their lives during and beyond their school years

In Year 7, students study 6 hours per fortnight of science in mixed ability groups. They will be introduced to each of the ten Big Ideas of Science throughout the year as they complete units of work covering aspects of Biology, Chemistry, and Physics. In each unit, students carry out a range of practical activities and investigations. Students are assessed throughout the topics using Demonstrate and Connect tasks. End of topic assessments focus on their ability to communicate their knowledge and understand key scientific concepts. Homework will be issued at least once per topic and may comprise extended research or completing a skills grid following a practical investigation. This course prepares students for continuing their scientific study into Year 8 and beyond.

	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topic/area of study	Matter – Particle Model Organisms – Cells Forces – Contact Forces	Earth and Resources – Rocks Ecosystems – Feeding Relationships	Forces – Space Electromagnetism - Current and resistance	British Science Week Energy – Heating and Cooling Genes – Variation and Evolution		Reactions – Acids and Alkalis Genes – Human and Plant Reproduction Waves - Light
Key learning aims – knowledge and skills	Students start their studies by looking at the fundamentals of each subject. The behaviour of matter can be described by the particle model, cells are the building blocks of all life and forces cause movement or changes in direction of objects.	Students study the rock cycle and explain how rocks are formed from other rocks through a series of chemical and physical events. They also study food chains and webs and the interdependence of all species.	Non-contact forces such as gravity are studied to explain the movement of objects in space. Students explore and build circuits to understand the concepts of current and resistance and how they affect each other.	At the start of term students will be producing work for British Science week. They will then investigate the variables affecting temperature change and explore how characteristics are passed down generations and look at evolution through natural selection. Summer half term 1 ends with AP2 exams covering all content.		Students learn how to change pH through neutralisation reactions. They compare sexual and asexual reproduction and investigate embryo development and the role of the placenta. Finally, they investigate light waves, reflection and use of lenses.

Assessment	End of Topic Tests	End of Topic Tests	AP1 exams		AP2 Exams	End of Topic Tests