Implementation: Curriculum Narrative

Subject: Science	*Year: 11*	*Author: MDO*

Key Knowledge *Pupils will know*	**Key Skills** *Pupils will be able to*
Key Threshold Concepts: **GCSE Knowledge and Understanding** • **GCSE topics studied this year are** • **For Biology; Genes and Reproduction and Evolution** • **For Chemistry; Carbon Chemistry, Earth resouces and Controlling reactions.** • **For Physics; Forces and Motion, Magnets and Magnetic Fields and Space.** • **These topics are the final topics of the GCSE course. They use prior knowledge from previous years teaching, but also are important and interesting topics. Knowledge of these ideas is important for everyone in the 21st Century. Understanding these concepts will enable people to make informed decisions as citizens of the United Kingdom.**	**Subject Skills:** **GCSE Knowledge and Understanding** • **Understand key scientific principles that underpin understanding of the natural world.** • **Learn key facts about science, and apply them to familiar and unfamiliar situations, with skill and judgement.** • **Understand that scientists use evidence to make judgements and assess reliability of theories.** • **Use evidence to suggest which theory is more likely.** • **Use experiments to ..** • **Develop understanding of the scientific approach to enquiry.** • **Develop knowledge and understanding of the natural world.** • **Learn how to use laboratory equipment and carry out standard procedures**

Subject Specific Knowledge and Sequencing:	**Prerequisites and Spiral Teaching:**

• Students should have a solid grounding of these concepts from Key Stage 2 and 3. • However misconceptions are likely to remain from students formative experiences – in some cases misconceptions are formed from media and students social experiences. • In order to fully understand these topics taught in this year, students will need to have prior understanding of cells and the environment, chemical reactions and conservation of mass, energy and forces.	• An understanding of cells is critical for a good understanding of the biology topics in year 11. • The chemistry topics use ideas about particles and energy gained in Year 7,8 and 9. • Forces and Motion are powerful ideas in Physics. Students are encouraged to apply their knowledge to help broaden their understanding of physics topics studied from year 7,8 and 9. • Students will continue to have misconceptions about core concepts- teachers will watch for and challenge these.

Cross-Curricular Knowledge Links:

The Year Eleven Science Curriculum uses and supports knowledge from other curriculum areas. Examples of this include, but are not limited to:

- *English –subject specific vocabulary and the skills needed to decode unfamiliar words.*
- *Maths – The use of calculations and graphs to process and explain data.*
- *Technology – the properties of materials and the understanding and explanation of forces.*

Teachers will take every opportunity to link learning to students' everyday experiences, and support them in making decisions that have an impact on their lives. An example of this would be the application of biology, chemistry and physics in the role of an analytical or environmental scientist

Reading Lists / Sources / Reading around the subject recommendations:

A good resource to use is BBC Bitesize(https://www.bbc.co.uk/bitesize/subjects/zrkw2hv). It has activities, videos and quizzes on all the ideas studied in Year 11.