Implementation: Curriculum Narrative

Subject: Science	*Year: 10*	*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; Bioenergetics, Feedback and Control and Genetics. These topics build from knowledge about cells and increase students understanding of life processes in animals and plants.** • **For Chemistry; Structure and Bonding, Making Substances and Atmosphere. These topics use ideas about particles and energy to increase student understanding of conservation of mass.** • **For Physics; Acceleration Energy Conservation, Electricity and Radioactivity. These are fundamental concepts in physics, using ideas that have been introduced in previous years. They are revisited and taught in more depth.**	**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 preschool activities.	• An understanding of cells is critical for a good understanding of the biology topics in year 10. • The chemistry topics use ideas about particles and energy gained in Year 7 and 8. • Energy and Atomic Structure are powerful ideas in Physics. Students are encouraged to apply their

• Teachers will check for misconceptions and ensure that the critical ideas of cells, particles and energy are fully understood before moving on. • Homeostasis, Conservation of Mass, Energy, Forces and Motion are critical concepts to understand in Science. Taught here they build on previous knowledge and enable students to do more with their understanding of these concepts.	knowledge to help broaden their understanding of physics topics studied from year 7 and 8. • Students will continue to have misconceptions about core concepts- teachers will watch for and challenge these.

Cross-Curricular Knowledge Links:

The Year Ten 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 chemical bonding to the role of a materials scientist.

Reading Lists / Sources / Reading around the subject recommendations:

A good resource to use is BBC Bitesize for GCSE material; https://www.bbc.co.uk/bitesize/subjects/zrkw2hv