Implementation: Curriculum Narrative

Subject: Science	*Year: 7*	*Author: MDO*

Key Knowledge *Pupils will know*	**Key Skills** *Pupils will be able to*
Key Threshold Concepts: **Securing the foundations** • **Cells: what the different types of cells are.** • **Particles: what is meant by melting, boiling and diffusion** • **Energy: the concept of stores and transfers** • **Forces: what contact and non-contact forces are.** • **Interdependence: The concepts of Food chains and Webs are introduced here.** • **Reproduction: how body systems prepare for another generation.** • **Changing Substances: how certain particles can combine to make new materials including acids and alkalis** • **Electric Circuits: linking to energy by studying the concepts of current and resistance**	**Subject Skills:** **Securing the foundations** • **Understand key scientific principles that underpin understanding of the natural world.** • **Learning key facts about science, and applying them to familiar and unfamiliar situations.** • **Understanding that scientists use evidence to make judgements and assess reliability of theories.** • **Using 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:

- The key concept of cells is taught first to make sure that students understand the idea of different cells linking to form tissues and organs. This knowledge is then applied to specific instances of human and plant reproduction.
- Particles are a fundamental concept in Biology Chemistry and Physics. Well taught students will be able to apply knowledge of particles to later concepts. In this year, a knowledge of particles helps to understand and explain elements, chemical reactions and some aspects of forces and waves.
- Energy is an important concept that students have prior experience of. The concept of energy stores and transfers is checked and developed here.
- Forces is a critical concept in Physics. Students will already have a working knowledge of forces from their daily lives. This means that misconceptions about how forces actually work will commonly be present. Diagnosing and challenging these misconceptions is critical to ensure progress in understanding mass and weight. This then links to learning about space and our place in the universe.

Prerequisites and Spiral Teaching:

- Cells, Particles, Energy and Forces will have been taught before in Key Stage 2. Some students will have made more progress than others. Ensuring that all students are secure in their knowledge and understanding is critical.
- Cells, Particles Energy and Forces are used in other topics throughout year 7 and 8. In GCSE they underpin many topics. They will be revisited many times over students time in education.

Cross-Curricular Knowledge Links:

- *The Year Seven 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 a detailed understanding of hazard symbols, linking to health and safety in the workplace, or the use of energy in forensic science.

Reading Lists / Sources / Reading around the subject recommendations:

A good resource to use is BBC Bitesize (https://www.bbc.com/bitesize/levels/z4kw2hv). It has activities, videos and quizzes on all the ideas studied in Year 7.