Science Curriculum Intents Churnet View Middle School

The vision of the Science Team at Churnet View Middle School is to continually strive for development of excellent teaching and learning in Science, incorporating a wide range of approaches to ensure pupils enjoy and succeed in Science and appreciate the universe around them. A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics.

We believe that students deserve a broad and ambitious Science curriculum, rich in skills and knowledge, which ignites curiosity and prepares them well for future learning or employment. Through building up a body of key foundational knowledge and concepts, pupils will be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Our Science curriculum will give students the opportunity to:

- Develop practical skills by working scientifically;
- Discuss and explain scientific concepts clearly and precisely;
- Unpick and remedy misconceptions;
- Understand the uses and implications of Science historically, today and for the future;
- Accurately read and interpret scientific vocabulary;
- Challenge what they see or hear in the world by taking into account new evidence and ideas;
- See connections between subject areas and become aware of the 15 big ideas underpinning scientific knowledge and understanding;
- To use problem solving and numeracy skills to solve scientific problems

	By the end of year 6	By the end of year 8
S C I E N C E	Teaching and learning of the upper KS2 curriculum focuses on building students' foundational knowledge and understanding of the 15 Big Ideas in Science. To enable this we continually use questioning to identify and then address misconceptions that students may have about the world of Science. Biological Concepts During Years 5 and 6, students will learn about how their body works, new life is formed and how all life	Students will experience transition from KS2 into KS3 through a spiral based curriculum which is based on the 15 Big Ideas in Science. We also being preparing the students for transition to KS4 by our discriminating use of scientific language and embedding key techniques and processes which underpin the Scientific Method. Biological Concepts Students will explore the foundations of life, from the sub-cellular level through to the interdependence of Ecosystems and human impacts on these.

	forms are classified. Through the study of Evolution and Adaptation, they will also begin to understand the fundamentals of how life on Earth began. Physical and Chemical Processes Students will begin to study the world we live in from the magnitude of the Universe down to the size of an atom, and how and why these interact with one another. They are introduced to the interactions of matter using both concrete and abstract examples.	Chemical Processes The basics of Atomic structure, bonding and reactions are visited and phenomena explained through the study of the Periodic Table. Students are taught to critically select and use key separation techniques to solve problems and will begin to use and predict chemical names and formulae. Physics Phenomena Students will study the concept of energy, and how this is conserved and transferred through changes of state to astronomical scales and also explore the forces which may cause or influence these transfers. They will learn about the Electromagnetic field for the first time in detail and draw links between the spectrum and the phenomena rising from electrical current.