Curriculum Overview 2026 - onwards

Curriculum Leader: Mr. Smith Subject: Science - Chemistry Year: 9

Year 9 Curriculum:

Autumn Term:

Metals & Reactivity

All pupils will build on their core knowledge from Year 7 and 8 curricula The Periodic Table and Materials & Earth to develop their core substantive knowledge of the atom and the way they are structured. This will be used to learn how chemical formula are worked out and pupils will learn how to predict and explain why metals react with acids to form salts through displacement. All pupils will learn how neutralisation creates a salt. Pupils will apply their knowledge of metals to explain their properties and uses. All pupils will develop core disciplinary knowledge in analysing and concluding from graphs.

Rates of Reaction

All pupils will develop their core substantive knowledge from Year 7 and 8 Chemical Reactions and The Periodic Table to learn how to measure the rate of a reaction and all pupils will learn to link this to the factors that affect it: concentration, surface area and catalysts. All pupils will learn the difference between exothermic, endothermic, combustion and thermal decomposition reactions. All pupils will develop explicit core disciplinary knowledge in planning, safely carrying out an investigation, then recording data and evaluating the results.

Spring Term and Summer Term

C1 Atomic Structure

All pupils will begin fundamentals of their GCSE in Combined Science. All pupils will complete C1 Atomic Structure and The Periodic Table. In this unit all pupils will develop their core substantive knowledge from KS3 to understand that the periodic table provides chemists with a structured organisation of the known chemical elements from which they can make sense of their physical and chemical properties. All pupils will learn the historical development of the periodic table and use models of atomic structure to provide good examples of how scientific ideas and explanations develop over time as new evidence emerges. All pupils will develop their core substantive knowledge that the arrangement of elements in the modern periodic table can be explained in terms of atomic structure which provides evidence for the model of a nuclear atom with electrons in energy levels.

Links to National Curriculum

Our Year 9 Science Chemistry curriculum is carefully sequenced to build on the fundamentals of KS3 **Particles, Chemical Reactions**, the **Periodic Table** and **Materials & Earth** that were learnt in Year 7 & 8. These concepts and the concept of **energetics** are developed further and linked together throughout Year 9 to apply the core substantive knowledge to more deeply explain **atoms, reactions** and **energetics.**

Our Year 9 Science curriculum ensures that over the year and all three sciences all pupils will learn the fundamentals of each core disciplinary knowledge skills for full coverage of **working scientifically**.

In the Year 9 Chemistry curriculum all pupils will learn the **experimental and investigation** skills of writing a plan and recording data and the **analysis and evaluation** skills of analysing and concluding from graphs, numeracy skills of calculating and evaluation of an investigation method.

Knowledge and understanding of this curriculum will be assessed by:

Embedded within the curriculum, a range of high-quality assessment techniques will be deployed at the point of learning to ensure that all pupils are acquiring the core substantive knowledge, identifying gaps, and addressing misconceptions.

Sequentially throughout the year pupils will be assessed on their retention of the core substantive knowledge, further identifying gaps and misconceptions which will be addressed through a targeted intervention.

Pupils disciplinary core knowledge will be assessed systematically throughout the year, using a variety of bespoke practical scenarios to allow them to demonstrate fundamental core skills required within science and clear guidance of the next steps to progression in each area.

Powerful Knowledge/Cultural Capital Opportunities

The powerful knowledge of the reactions and energetics will allow our pupils to understand how exothermic reactions are a major source of the energy in today's world and it is possible to store chemical energy by endothermic processes.

To ensure pupils are curious, inquisitive and questioning about the world around them we equip pupils with the skills to make informed decisions about our ever-changing world and their ability to plan investigations, collect evidence and analyse evidence is vital to take their seat at the table of science-based society.