Curriculum Overview

Curriculum Leader: Mr. Smith Subject: Science - Chemistry Year: 8

Year 8 Curriculum:

Autumn Term:

The periodic table

All pupils will build on their substantive core knowledge of pure substances and elements and compounds from Year 7 to develop their core substantive knowledge of the periodic table and materials focusing on the physical properties of metals and non-metals and three specific groups on the periodic table.

They will introduce the concept of reactivity and describe patterns in properties of groups.

All pupils will develop core disciplinary knowledge in analysing and concluding from data tables.

Spring and Summer Terms:

Materials and the Earth

All pupils will develop their substantive core knowledge of the Earth and atmosphere.

They will develop their substantive core knowledge of the composition and the structure of the Earth. They will learn the three layers of the Earth and the minerals of which it comprises.

They will develop their substantive core knowledge of the rock cycle by focusing on the processes of the rock cycle and the three types of rock. They will build on their knowledge of the Earth by developing their substantive core knowledge of the Earth as a limited resources and why we recycle. They will develop their knowledge of the formation and uses of fossil fuels, and the issues arising from their use. They will develop their substantive core knowledge of the atmosphere by learning about the composition of the Earth's atmosphere and the carbon cycle and its role as a greenhouse gas.

They will build on their knowledge of the atmosphere by developing their substantive core knowledge of global warming and climate change.

All pupils will develop explicit core disciplinary knowledge in presenting observations and data using a line graph and analysing and concluding from graphs and data tables.

Links to National Curriculum

The Year 8 Chemistry curriculum is carefully sequenced to build on the KS2 knowledge of **the rock cycle** and evaluate the evidence for the chances to the structure of the earth over time, using fossil records.

Our Year 8 Science Chemistry curriculum builds on the KS2 knowledge of **simple substances** and goes deeper into pure substances, elements and the periodic table and the physical properties of certain groups of elements.

The Year 8 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 8 Chemistry curriculum all pupils will learn the **analysis and evaluation** skills of drawing line graphs and analysing and concluding from data tables and analysing and concluding from graphs.

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 materials and the Earth will allow our pupils to understand world issues such as renewability and energy usage in extraction of material and the processes of global warming and climate change.

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.