Curriculum Overview 2026 - onwards

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

Year 9 Curriculum:
Autumn Term:

Electricity & Magnetism

All pupils will build upon their core substantive knowledge of magnetism from previous learning to describe and explain magnetic phenomenon using the concept of magnetic fields and field lines to the Earth's magnetic field and phenomenon. All pupils will build upon their core substantive knowledge of electrical charge from previous learning to describe and explain the interactions of two charged particles. All pupils will build upon their core substantive knowledge of simple circuits from previous learning to develop more advanced descriptions and explanations of electric circuits using series and parallel circuits and the concept of resistance to describe and explain current flow. All pupils will develop explicit core disciplinary knowledge in representing data in line graphs and writing a plan.

Spring Term

P3 Particle Model
All pupils will begin the fundamentals of their GCSE in Combined Science. All pupils will complete P3 Particle Model. In this unit all pupils will apply their core knowledge to predict the behaviour of solids, liquids and gases. All pupils will explain a wide range of observations in everyday life such as why it is difficult to make a good cup of tea high up a mountain. Pupils will use their core substantive knowledge explain how engineers use these principles when designing vessels to withstand high pressures and temperatures

Summer Term

P4 Nuclear Radiation
All pupils will continue the fundamentals of their GCSE in Combined Science with P4 Nuclear Radiation. All pupils will learn and develop their core substantive knowledge that ionizing radiation is hazardous but can be very useful. All pupils will learn how scientists have studied radioactivity to understand the structure of atoms, nuclear forces and stability and how they often suffered from the exposure. All pupils will learn that radioactive materials are widely used in medicine, industry, agriculture and in electrical power generation.

Links to National Curriculum

Our Year 9 Science Physics curriculum on Forces carefully builds Year 7 & 8 knowledge of **Energy** and **Matter** to develop these concepts further and apply it to **objects in motion.** Our Year 9 Science Physics curriculum on **Electricity** carefully builds on the **current electricity** and s**tatic electricity** to develop these concepts further in terms of resistance and parallel and series circuits.

Our Year 9 Science curriculum ensures that over the year in 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 Physics curriculum all pupils will learn the **experimental and investigation** skills of carrying out an investigation, writing a plan and recording data and the **analysis and evaluation** skills of drawing line, numeracy of calculations and evaluation of an investigation.

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 resistance in electricity and magnetism will allow all pupils to understand and evaluate the risk of electric shock in terms of relative resistances and to understand the magnetic field of planet Earth in its use as a navigation aid.
The powerful knowledge of motion and pressure will allow all pupils to understand speed and acceleration in vehicles, how levers make life easier and why things float or sink.
To ensure pupils are curious and questioning about the world around them we equip pupils to make informed decisions on evidence is vital for today's science-based society.