

Science

Curriculum Intent

- **Awe and wonder** - We will stimulate every child's curiosity about the world and the universe that they inhabit. We want to inspire, enthuse and provide students a passion about the natural world.
- **Scientifically literate citizens** - We will encourage every child to think critically about what they read and hear about the world ensuring that they can understand and challenge the claims made in debates about vital issues such as public health and disease, how we meet our energy needs in a sustainable way, how we ensure that we treat the Earth's resources as a finite supply which we need to preserve for future generations, how we ensure that we behave in ways that do not threaten harmful climate change
- **Knowledge based curriculum**- We use a knowledge based curriculum to ensure students' success at all levels. To achieve this we want pupils to become actively involved in their own learning and understand that scientific knowledge is fundamental to making ground-breaking discoveries and improving our lives.
- **Cultural capital** - The concepts, theories and big ideas of science have developed through the thoughts and experiments of scientists over the last three thousand years or more. We encourage every child to learn about the rich global history of scientific discovery, understanding the big ideas of science which underpin our understanding of how the earth and universe operate
- **Working scientifically** - We provide opportunities for every child to experience experimental work in science, developing an ability to manipulate and operate complex and hazardous equipment and chemicals safely and developing a scientific approach to problem-solving
- **Further study** - For those children who are particularly engaged and interested in science, we provide opportunities for them to see how science is applied in the workplace and offer advanced courses that allow them to pursue degrees and careers in STEM disciplines

We will also develop students' literacy and numeracy skills through explaining scientific phenomena and be able to use correct scientific terminology. We intend students to achieve excellent outcomes in AQA GCSE Separate and Combined (Trilogy) Sciences, OCR A Level Biology, OCR A Level Chemistry and AQA A Level Physics and BTEC Applied Science Extended Diploma.

Year 7

Year 8

Year 9

Year 10 & 11

Year 12 & 13

Term Themes

1. Particles
2. Forces
3. Interdependence and Cells
4. Energy
5. Types of Reactions
6. Reproduction and Variation

Term Themes

1. Periodic table and Materials
2. Energy from food groups
3. Waves and Pressure
4. Chemical Reactions and the environment
5. Electricity and Magnetism
6. Keeping Healthy

Term 1: Chemistry Fundamentals and Cell Biology

Term 2: Energy and Investigative Chemistry

Term 3: Waves, Forces, and Communicable Diseases

Year 10

Term 1: Human Biology and Nuclear Physics, Radiation and Magnetism

Term 2 : Electricity (T: and Astrophysics) and Reacting substances

Term 3: Plant Biology and Humans and The Earth

Biology

Module 1: Development of practical skills in biology
 Module 2: Foundations in biology
 Module 3: Exchange and transport
 Module 4: Biodiversity, evolution and disease
 Module 5: Communication, homeostasis and energy
 Module 6: Genetics, evolution and ecosystems

Physics

			<p>Year 11 Term 1: Evolution and Systems and Organic Chemistry and Polymers</p> <p>Term 2 and Term 3: Application of Forces</p> <p>Terms 4 and 5 of Y11 are used for exam preparation and intervention</p>	<p>1 Measurements and their errors 2 Particles and radiation 3 Waves 4 Mechanics and materials 5 Electricity 6 Further mechanics and thermal physics 7 Fields and their consequences 8 Nuclear physics 9 Astrophysics</p> <p>BTEC Applied Science This course promotes progression to higher education, an Apprenticeship or entry level employment in the science sector. It begins with the fundamentals of level three biology chemistry and physics including cell structure, trends in the periodic tables and quantitative chemistry and the role of physics in communication before sovers working in the science industry and practical science. Assessment methods range from written exams to structured and unstructured assignments.</p>
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