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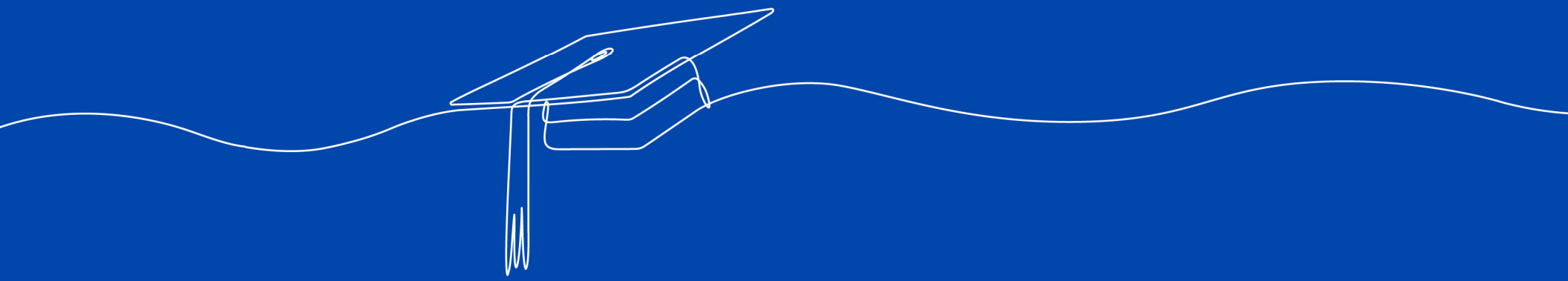
Ormiston Academies Trust
ACHIEVING MORE TOGETHER

Science curriculum overview



Science at [school]

Key stage 3, Years 7, 8 and 9

Our KS3 Science curriculum helps students understand the world around them through the study of biology, chemistry and physics. We want students to develop a secure understanding of the key scientific concepts that explain living organisms, matter, energy and the universe, whilst also understanding how scientific knowledge is developed and refined through enquiry and evidence.

The curriculum is carefully sequenced to build students' knowledge of science and how to be a scientist. Students learn the fundamental ideas of science through themes that are revisited and developed over time, allowing them to make increasingly complex connections both within and across the scientific disciplines. Through practical work, investigation and critical evaluation of evidence, students develop the skills needed to think and work scientifically.

We aim to develop students' scientific literacy by explicitly teaching the language of science, enabling them to communicate ideas effectively, interpret information critically and engage confidently with scientific issues. Students also explore the wider richness of science, including its impact on society, the environment and future technological developments, helping them appreciate the relevance of science in their everyday lives and future careers.

By the end of KS3, our intent is for students to be curious, knowledgeable and scientifically literate young people who can think critically, ask questions about the world around them and feel inspired to continue studying science.

Key stage 4, Years 10 and 11

Our KS4 Science curriculum is designed to prepare students for success in GCSE Combined Science: Trilogy or separate GCSEs in Biology, Chemistry and Physics using the AQA examination board. Building on the strong foundations established at KS3, students deepen their understanding of biology, chemistry and physics while continuing to develop the disciplinary knowledge and mathematical skills required to work scientifically.

Students learn to apply their scientific knowledge to familiar and unfamiliar contexts, analyse evidence, evaluate claims and solve problems. Practical work remains an important aspect of the curriculum, enabling students to develop their understanding of scientific enquiry and the methods used by scientists to generate reliable knowledge.

Alongside securing strong outcomes in GCSE Science, our intent is that students leave school scientifically literate and able to make informed decisions about issues that affect their lives and society. Students gain an appreciation of the role science plays in addressing local, national and global challenges and develop the knowledge and skills that will support progression into further study, apprenticeships and a wide range of science-related careers.

GCSE course information

Exam board	AQA
Course	GCSE Combined Science: Trilogy (8464) *or* GCSE Biology (8461) GCSE Chemistry (8462) GCSE Physics (8463)
Specification and resources	Combined Science: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464 GCSE Biology: https://www.aqa.org.uk/subjects/biology/gcse/biology-8461/specification GCSE Chemistry: https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification GCSE Physics: https://www.aqa.org.uk/subjects/physics/gcse/physics-8463/specification

Year 7

In year 7, students learn some of the fundamental ideas in biology, chemistry and physics, laying the foundations for future learning.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The particle model Changing shape	Animal cells The atom	Astrophysics Changes of state	The breathing system Types of reaction	The cycles Human reproduction	Healthy living Purity

Assessments will take place in January and June and we will share revision information a few weeks before each assessment.

Year 8

In year 8, students learn about energy, waves, forces, bodily systems and the elements, building on their knowledge from year 7 and extending it to some of the key areas of each scientific discipline.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The pH scale The digestive system Our atmosphere	Principles of energy Heating and cooling Cellular respiration	Energy in the home Plant cells	Electrical circuits Mechanical Waves	Photosynthesis Forces and Motion	The periodic table Changing forces

Assessments will take place in January and June and we will share revision information a few weeks before each assessment.

Year 9

In year 9, students extend their learning from year 8, deepening their understanding of how the world works from a scientific perspective.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Magnetism Interdependence	Gas pressure Inheritance and evolution	Light waves Life on earth	Static electricity The reactivity series of metals	Cells to cells systems Atoms and the periodic table Energy and the particle model	Chromatography and analysis Forces 1: Defining forces

Assessments will take place in January and June and we will share revision information a few weeks before each assessment.