

SCIENCE

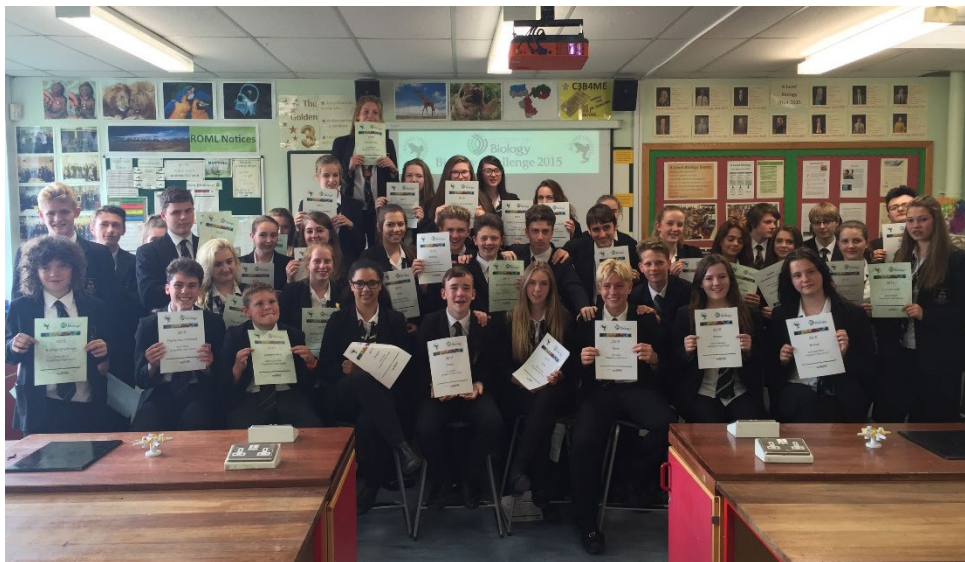
“We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology.”

This is a quote from 1990 by the astronomer, planetary scientist, cosmologist, author, and science communicator, Carl Sagan. Technology has become more complex and society more dependent upon it in the 30 years since his comment; what has changed about levels of scientific knowledge in society?

The Science Department at Wolgarston is committed to providing students with the knowledge and tools required to understand the science that is fundamental to our modern lives. We aim to enable each student to pursue courses of study that will ensure they make the best possible progress, attain the best possible grades, and have the best possible grasp of fundamental scientific principles.

All students follow a common course in Year 9 that ensures completion of the Key Stage 3 Programme of Study for Science, planned in consultation with the Science Departments from Brewood and Penkridge Middle Schools. The majority of the year is spent focusing on modules that bridge from Key Stage 3 knowledge to the fundamental scientific principles necessary for GCSE level work.

Students are placed in groups for Years 10 and 11 that follow one of three routes: Separate Science GCSEs in Biology, Chemistry and Physics at higher tier; Combined Science (Trilogy) at higher tier; Combined Science (Trilogy) at foundation tier. The principle applied to placing students in groups is, as previously stated, to enable all students to make the best possible progress.



Our KS3 curriculum

Completion of KS3 curriculum	The modules below are fundamental science topics designed to bridge from KS3 to GCSE					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 9	Photosynthesis, Interactions and Interdependencies, Earth and Atmosphere, Sound Waves, Light Waves	Biology: Cell Biology, Chemistry: Atomic Structure and the Periodic Table, Physics: Energy	Biology: Cell Biology, Chemistry: Atomic Structure and the Periodic Table, Physics: Energy	Biology: Organisation, Chemistry: Bonding, Structure and Properties of Metals, Physics: Particle Model of Matter	Biology: Organisation, Chemistry: Bonding, Structure and Properties of Metals, Physics: Particle Model of Matter	Completion of modules, revision and end-of-year assessment

Our KS4 curriculum

Module lengths vary; some modules are extensive and take 2 or 3 half-terms to complete. The plan below is therefore indicative only.						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	Biology: Infection and Response, Chemistry: Quantitative Chemistry, Physics: Electricity	Biology: Infection and Response, Chemistry: Chemical Changes, Physics: Electricity	Biology: Bioenergetics, Chemistry: Chemical Changes, Physics: Atomic Structure	Biology: Inheritance, Variation and Evolution, Chemistry: Energy Changes, Physics: Forces	Biology: Inheritance, Variation and Evolution, Chemistry: Rate and Extent of Chemical Change, Physics: Forces	Biology: Ecology, Chemistry: Rate and Extent of Chemical Change, Physics: Forces; Waves
Year 11	Biology: Ecology, Chemistry: Organic Chemistry, Physics: Waves	Biology: Homeostasis and Response, Chemistry: Chemical Analysis, Physics: Waves; Magnetism and Electromagnetism	Biology: Homeostasis and Response, Chemistry: Chemistry and the Atmosphere,	Biology: Revision, Chemistry: Using Resources; Revision, Physics: Space (Separate Science only); Revision	Biology: Revision, Chemistry: Revision, Physics: Revision	Exams

			Physics: Magnetism and Electromagnetism			
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Exam specifications

AQA Separate Science GCSE Biology 8461 <https://www.aqa.org.uk/subjects/science/gcse/biology-8461>

AQA Separate Science GCSE Biology 8462 <https://www.aqa.org.uk/subjects/science/gcse/chemistry-8462>

AQA Separate Science GCSE Biology 8463 <https://www.aqa.org.uk/subjects/science/gcse/physics-8463>

AQA Combined Science: Trilogy GCSE 8464 <https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464>