Science

Science is about explaining how the universe works. We use science to explore the reasons for what we observe in living things, matter, energy and forces. We aim to nurture curiosity in students, encouraging them to ask questions and explore different viewpoints. As well as learning about different areas of science, students also learn the importance of 'Working Scientifically'. Practical work is an important part of students building and reinforcing understanding for themselves. The science department are a very collaborative team with a range of specialisms. At GCSE, students are entered for AQA exams in science. Most Year 10 students will study GCSE Combined Science Trilogy, which results in two numbered grade GCSEs. Some opt for separate GCSEs in Biology, Chemistry and Physics. Year 11 students will sit exams in GCSE Science A and GCSE Additional Science (or GCSE Biology, GCSE Chemistry and GCSE Physics) at the end of Year 11 (a letter grade A*-G is awarded for each GCSE). Students can go on to study A-level Biology, Chemistry and/or Physics, or alternatively, a BTEC Level 3 Extended Certificate in Applied Science.

Members of Staff

Mr J Heslop - Subject leader
Miss K Luckhurst - Key Stage 3 co-ordinator
Mrs A Bamford - Science and Project teacher
Mr S Bamford - Assistant Head teacher
Mr K Bingham - Head of Bailey House
Mr P Bishop - Science teacher
Mrs A Bisson - Science teacher
Mrs F Blackmore - Science teacher
Mr J Kiss - Science teacher
Miss N Webb - Science teacher
Mrs U Hawksworth - Science, Psychology and Sociology teacher
Mrs S Moscrop - Science teacher
Mrs B Davies - Lead science technician
Mrs B Beavan - Science technician

KS3 Areas of Study

Year 7	Year 8	Year 9
7A: Cells, tissues, organs and systems	8A: Food and Nutrition	9A: Genetics and Evolution
7B: Sexual reproduction in animals	8B: Sexual reproduction in plants	9B: Growing our food
7D: Ecosystems	8C: Breathing and respiration	9E: Making Materials
7C: Muscles & bones	8D: Unicellular organisms	9F: Reactivity
7F: Acids & bases	8E: Combustion	9I: Forces and Motion
7E: Mixtures and separation	8F: The Periodic Table	9J: More on electricity
7G: The particle model	8G: Metals and their uses	
7H: Atoms, elements & compounds	8H: Rocks	
7I: Energy	8I: Fluids	

7J: Current electricity	8J: Light	
7K: Forces	8K: Energy transfers	
7L: Sound	8L: Earth and Space	

GCSE Science

Year 10 - examples from GCSE Combined Science	Year 11 - examples from GCSE Additional Science
Biology: ● Cell biology ● Organisation ● Infection and response Chemistry: ● Atmosphere ● Bonding, structure and the properties of matter ● Sustainable development ● Chemical change Physics: ● Energy ● Particle model ● Atomic structure	Biology: ● Cells, tissues and organs ● Organisms in the environment ● Enzymes ● Energy from respiration ● Simple inheritance in animals and plants ● Old and new species Chemistry: ● Acids, bases and salts ● Electrolysis ● (most of the Chemistry content covered in Year 10) Physics: ● Forces and their effects ● Kinetic energy ● Currents in electrical circuits ● Using mains electricity ● Radioactive decay ● Nuclear fission and fusion

A Levels in science subjects

Year 12	Year 13
Biology: ● Biological molecules ● Cells ● Organisms exchange substances with their environment ● Genetic information, variation and relationships between organisms Chemistry: ● Physical chemistry ● Inorganic chemistry ● Organic chemistry Physics: ● Particles and radiation ● Waves	Biology: ● Energy transfers in and between organisms ● Organisms respond to changes in their internal and external environments ● Genetics, populations, evolution and ecosystems ● The control of gene expression Chemistry: ● Physical chemistry ● Inorganic chemistry ● Organic chemistry Physics: ● Further mechanics and thermal physics ● Fields and their consequences

● Mechanics and materials ● Electricity BTEC Level 3 Extended Certificate in Applied Science (equivalent to A-level) ● Principles and Applications of Science 1 ● Practical Scientific Procedures and Techniques	● Nuclear physics ● Optional unit BTEC Level 3 Diploma in Applied Science (equivalent to A-level) ● Scientific investigations ● Perceptions of Science ● Using mathematical tools in science ● Using statistics in science ● Medical Physics ● Astronomy ● Physiology of human regulation and reproduction