



Introduction

The Science department enhance students' lives in the study of Science by fulfilling the St Joseph's Mission statement: **Living, loving, learning through Christ**. We strive to make learning fun, inspire a love of practical work and a thirst for knowledge in our students, developing them as independent and enquiring learners. To achieve our aim, we endeavour to:

- Ensure all students make outstanding progress, regardless of their starting point.
- Ensure all Science lessons include relevant challenges, pupil engagement and a focus on celebrating success.
- Provide students opportunities to participate in a wide range of learning experiences, developing them as effective communicators and active learners.
- Help all students develop into creative, analytical, and independent thinkers.
- Encourage all pupils to develop skills to enable them to communicate their scientific ideas fluently and accurately.
- Provide a supportive, engaging, and challenging learning environment to help students achieve their very best.
- To provide students with the knowledge and skillset, which enables them to be scientific in their thinking.
- To ensure students understand scientific language, enabling them to describe and manipulate real world scenarios and make informed decisions.
- To provide students with knowledge and a solid foundation of skills in Key Stage 3 and 4, so they are able to achieve the best grade possible at GCSE, which will enable them to go on to their chosen route after St. Joseph's.

Topics covered in each year group

Year 7

Activate Science provides ideal preparation for all GCSE routes, with comprehensive and flexible assessment at the end of each chapter.

AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures

AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques, and procedures.

AO3: Analyse information and ideas to: interpret and evaluate; make judgements and draw conclusions; develop and improve experimental procedures.

Mathematics, literacy and working scientifically is embedded throughout to develop key skills.

Assessment of each topic is about every two weeks with an overall assessment at the end of each term.

Term 1 – Biology	Term 2 – Chemistry	Term 3 – Physics
<ol style="list-style-type: none"> 1. Cells 2. Structure and function of body systems 3. Reproduction 	<ol style="list-style-type: none"> 1. Particles and their behaviour 2. Atoms, elements, and compounds 3. Chemical reactions 4. Acids and alkalis 	<ol style="list-style-type: none"> 1. Forces 2. Sound 3. Light 4. Space

Year 8

Term 1a – Physics	Term 2 – Physics	Term 3 – Biology
<ol style="list-style-type: none"> 1. Forces 2. Sound 3. Light 4. Space 	<ol style="list-style-type: none"> 1. Electricity and magnetism 2. Energy 3. Motion and speed 	<ol style="list-style-type: none"> 1. Health and lifestyle 2. Ecosystems 3. Adaptation and inheritance
Term 1b – Chemistry <ol style="list-style-type: none"> 1. The Periodic Table 2. Separation techniques 3. Metals and acid 4. The Earth 		

Year 9

Students will follow **one** of two science options:

AQA GCSE separate sciences. Students can achieve three separate GCSE qualifications in Biology, Chemistry and Physics.

- **AQA Biology, Specification No. 8461.**
- **AQA Chemistry, Specification No. 8462.**
- **AQA Physics, Specification No. 8463.**

AQA GCSE Combined Science Trilogy. Students can achieve two GCSE qualifications in Science.

- **AQA Combined Science Trilogy, Specification No. 8464**

Term 1 Biology 1. Cell structure and transport 2. Cell division 3. Organisation and the digestive system 4. Organising animals and plants Chemistry 1. Atomic structure 2. The Periodic Table 3. Structure and bonding 4. Chemical calculations	Term 2 Biology 1. Communicable diseases 2. Preventing and treating disease 3. Non-communicable diseases 4. Photosynthesis 5. Respiration Chemistry 1. Chemical changes 2. Electrolysis 3. Energy changes	Term 3 Physics 1. Conservation and dissipation of energy 2. Energy transfer by heating 3. Energy resources 4. Electric circuits 5. Electricity in the home 6. Molecules and matter 7. Radioactivity
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Year 10

Term 1 Biology 1. The human nervous system 2. Hormonal coordination 3. Homeostasis in action 4. Reproduction 5. Variation and evolution 6. Genetics and evolution Chemistry 1. Rates and equilibrium 2. Crude oil and fuels 3. Organic reactions 4. Polymers	Term 2 Biology 1. Adaptations, interdependence, and competition 2. Organising an ecosystem 3. Biodiversity and ecosystems Chemistry 1. Chemical analysis 2. The Earth's atmosphere 3. The Earth's resources 4. Using our resources	Term 3 Physics 1. Forces in balance 2. Motion 3. Forces and motion 4. Force and pressure 5. Wave properties 6. Electromagnetic waves 7. Light 8. Electromagnetism 9. Space
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Year 11

Term 1 Biology 1. Cells and organisation 2. Disease and bioenergetics 3. Biological responses 4. Genetics and reproduction 5. Ecology Chemistry 1. Atoms, bonding, and moles 2. Chemical reactions and energy changes 3. Rates, equilibrium, and organic chemistry 4. Analysis and the Earth's resources	Term 2 Physics 1. Energy and energy resources 2. Particles at work 3. Forces in action 4. Waves, electromagnetism, and space	Term 3 Revision Biology <ul style="list-style-type: none">• Paper 1• Paper 2 Chemistry <ul style="list-style-type: none">• Paper 1• Paper 2 Physics <ul style="list-style-type: none">• Paper 1• Paper 2
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