



Curriculum plan for Science	September 2021
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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 – Chemistry (continued)
<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. Particles and their behaviour 2. Atoms, elements, and compounds 3. Chemical reactions 4. Acids and alkalis <p>Term 3 – Physics</p> <ol style="list-style-type: none"> 1. Forces 2. Sound 3. Light 4. Space

Year 8

Term 1a-Chemistry

1. The Periodic Table
2. Separation techniques
3. Metals and acid
4. The Earth

Term 1b- Physics

1. Forces
2. Sound
3. Light
4. Space

Term 2- Physics

1. Electricity and magnetism
2. Energy
3. Motion and speed

Term 3- Physics (continued)

1. Electricity and magnetism
2. Energy
3. Motion and speed

Term 3- Biology

1. Health and lifestyle
2. Ecosystems
3. Adaptation and inheritance

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 <ol style="list-style-type: none">1. Cell structure and transport2. Cell division3. Organisation and the digestive system4. Organising animals and plants Chemistry <ol style="list-style-type: none">1. Atomic structure2. The Periodic Table3. Structure and bonding4. Chemical calculations	Term 2 Biology <ol style="list-style-type: none">1. Communicable diseases2. Preventing and treating disease3. Non-communicable diseases4. Photosynthesis5. Respiration Chemistry <ol style="list-style-type: none">1. Chemical changes	Term 3 Physics <ol style="list-style-type: none">1. Conservation and dissipation of energy2. Energy transfer by heating3. Energy resources4. Electric circuits5. Electricity in the home6. Molecules and matter7. Radioactivity
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Year 10

Term 1 Biology <ol style="list-style-type: none">1. The human nervous system2. Hormonal coordination3. Homeostasis in action4. Reproduction5. Variation and evolution6. Genetics and evolution Chemistry <ol style="list-style-type: none">1. Chemical changes2. Electrolysis3. Energy changes	Term 2 Biology <ol style="list-style-type: none">1. Adaptations, interdependence, and competition2. Organising an ecosystem3. Biodiversity and ecosystems Chemistry <ol style="list-style-type: none">1. Rates and equilibrium	Term 3 Physics <ol style="list-style-type: none">1. Conservation and dissipation of energy2. Energy transfer by heating3. Energy resources4. Electric circuits5. Electricity in the home6. Molecules and matter7. Radioactivity
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Year 11

<p>Term 1</p> <p>Biology</p> <ol style="list-style-type: none">1. Cells and organisation2. Disease and bioenergetics3. Biological responses4. Genetics and reproduction5. Ecology <p>Chemistry</p> <ol style="list-style-type: none">1. Atoms, bonding, and moles2. Chemical reactions and energy changes3. Rates, equilibrium, and organic chemistry4. Analysis and the Earth's resources <p>Revision</p> <p>Biology</p> <ul style="list-style-type: none">• Paper 1• Paper 2 <p>Chemistry</p> <ul style="list-style-type: none">• Paper 1• Paper 2	<p>Term 2</p> <p>Biology</p> <ol style="list-style-type: none">1. Cells and organisation2. Disease and bioenergetics3. Biological responses4. Genetics and reproduction5. Ecology <p>Chemistry</p> <ol style="list-style-type: none">1. Atoms, bonding, and moles2. Chemical reactions and energy changes3. Rates, equilibrium, and organic chemistry4. Analysis and the Earth's resources <p>Revision</p> <p>Biology</p> <ul style="list-style-type: none">• Paper 1• Paper 2 <p>Chemistry</p> <ul style="list-style-type: none">• Paper 1• Paper 2	<p>Term 3</p> <p>Physics</p> <ol style="list-style-type: none">1. Energy and energy resources2. Particles at work3. Forces in action4. Waves, electromagnetism, and space <p>Physics</p> <ul style="list-style-type: none">• Paper 1• Paper 2
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