



Curriculum Overview KS4

Science

Our students study a full and practical rich key stage 3 national curriculum in year 7 and 8 which introduces vital subject content and nurtures key skills in preparation for key stage 4. In key stage 4 they study a personalised curriculum that includes GCSE Synergy Combined Science enabling our students to be fully prepared for a self-reliant post 16 career choice. Science not only provides our young people with information to help them live a healthy, informed life surrounded by new technology, but also prepare them for a lot of career paths. Science is important for science-based degrees such as medicine, veterinary science, nursing, forensic science, radiography and engineering. Science is also extremely useful in any career to do with people such as social work, psychology, sociology and health and social care. Science is also very useful for any career to do with materials and chemicals such as mechanics and vehicle repair, electrician, building and construction.

Synergy GCSE is a double award and worth two GCSEs. It is assessed by four, 1 hour and 45 minute exams. The specification covers the same Department for Education subject criteria as Combined Science: Trilogy. The content is arranged into topics that bring together concepts from biology, chemistry and physics to help students understand that they are interlinked, and to exemplify key areas of working scientifically. This will give students a more rounded understanding of science as a whole. Subject units include:

1. Building blocks
2. Transport over larger distances
3. Interactions with the environment
4. Explaining change
5. Building blocks for understanding
6. Interactions over small and large distances
7. Movement and interactions
8. Guiding Spaceship Earth towards a sustainable future
9. Key ideas

Synergy GCSE includes assessment objectives that are set by Ofqual. These are delivered throughout all units in preparation for the exams and embed mastery of working scientifically, these include:

1. Demonstration of knowledge and understanding: scientific ideas; scientific techniques and procedures.
2. Application of knowledge and understanding: scientific ideas; scientific enquiry, techniques and procedures.
3. Analysis of information and ideas to: interpret and evaluate; make judgements and draw conclusions; develop and improve experimental procedures.



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Year 1

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Unit 1 Building Blocks							Unit 1 Building Blocks & Unit 2 Transport Over Large Distances						
	Unit 1 Building Blocks: States of Matter	Unit 1 Building Blocks: States of Matter	Unit 1 Building Blocks: States of Matter	Unit 1 Building Blocks: Atomic Structure	Unit 1 Building Blocks: Cells in Animals & Plants	Unit 1 Building Blocks: Cells in Animals & Plants	Unit 1 Building Blocks: Cells in Animals & Plants	Unit 1 Building Blocks: Waves	Unit 1 Building Blocks: Waves	Unit 2 Transport Over Large Distances: Systems in the Human Body	Unit 2 Transport Over Large Distances: Systems in the Human Body	Unit 2 Transport Over Large Distances: Systems in the Human Body	Unit 2 Transport Over Large Distances: Systems in the Human Body	Unit 2 Transport Over Large Distances: Systems in the Human Body
Spring	Unit 2 Transport Over Large Distances & Unit 3 Interaction with the Environment							Unit 3 Interaction with the Environment						
	Unit 2 Transport Over Large Distances: Plants & Photosynthesis	Unit 2 Transport Over Large Distances: Plants & Photosynthesis	Unit 2 Transport Over Large Distances: Plants & Photosynthesis	Unit 2 Transport Over Large Distances: Plants & Photosynthesis	Unit 3 Interaction with the Environment: Lifestyle & Health	Unit 3 Interaction with the Environment: Lifestyle & Health	Unit 3 Interaction with the Environment: Lifestyle & Health	Unit 3 Interaction with the Environment: Lifestyle & Health	Unit 3 Interaction with the Environment: Radiation & Risk	Unit 3 Interaction with the Environment: Radiation & Risk	Unit 3 Interaction with the Environment: Radiation & Risk			
Summer	Unit 3 Interaction with the Environment & Unit 4 Explaining Change							Unit 4 Explaining Change & MOCKS						
	Unit 3 Interaction with the Environment: Preventing, Treating and Curing Disease	Unit 3 Interaction with the Environment: Preventing, Treating and Curing Disease	Unit 3 Interaction with the Environment: Preventing, Treating and Curing Disease	Unit 4 Explaining Change: The Earth's atmosphere	Unit 4 Explaining Change: The Earth's atmosphere	Unit 4 Explaining Change: The Earth's atmosphere	Unit 4 Explaining Change: Ecosystems & Biodiversity	Unit 4 Explaining Change: Ecosystems & Biodiversity	Unit 4 Explaining Change: Ecosystems & Biodiversity	Unit 4 Explaining Change: Inheritance	Unit 4 Explaining Change: Inheritance	Unit 4 Explaining Change: <i>Variation & Evolution</i>	MOCKS	MOCKS

Sept 2020: Year 11 begin from year 10 content pre COVID Closure then year 2 content.

Challenge- Honesty- Curiosity- Self-reliance- Belonging- Resourcefulness.



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Year 2

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Unit 5 Building Blocks for Understanding & Unit 6 Interactions Over Small & Large Distances							Unit 6 Interactions Over Small & Large Distances & Unit 7 Movement & Interactions						
	Unit 5 Building Blocks for Understanding: The Periodic Table	Unit 5 Building Blocks for Understanding: The Periodic Table	Unit 5 Building Blocks for Understanding: Chemical Quantities	Unit 5 Building Blocks for Understanding: Chemical Quantities	Unit 5 Building Blocks for Understanding: Chemical Quantities	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 6 Interactions Over Small & Large Distances: Forces & Energy Changes	Unit 7 Movement & Interactions: Forces & Motion
Spring	Unit 7 Movement & Interactions							Unit 7 Movement & Interactions						
	Unit 7 Movement & Interactions: Electricity	Unit 7 Movement & Interactions: Electricity	Unit 7 Movement & Interactions: Electricity	Unit 7 Movement & Interactions: Electricity	Unit 7 Movement & Interactions: Acids & Alkalis	Unit 7 Movement & Interactions: Acids & Alkalis	Unit 7 Movement & Interactions: Rate & Extent of Chemical Change	Unit 7 Movement & Interactions: Rate & Extent of Chemical Change	Unit 7 Movement & Interactions: Rate & Extent of Chemical Change	Unit 7 Movement & Interactions: Rate & Extent of Chemical Change	Unit 7 Movement & Interactions: Atoms into Ions & Ions into Atoms	Unit 7 Movement & Interactions: Atoms into Ions & Ions into Atoms		
Summer	Unit 8 Guiding Spaceship Earth Towards a Sustainable Future & REVISION							Unit 8 Guiding Spaceship Earth Towards a Sustainable Future & REVISION						
	Unit 8 Guiding Spaceship Earth Towards a Sustainable Future: Carbon Chemistry	Unit 8 Guiding Spaceship Earth Towards a Sustainable Future: Carbon Chemistry	Unit 8 Guiding Spaceship Earth Towards a Sustainable Future: Resources of Materials & Energy	Unit 8 Guiding Spaceship Earth Towards a Sustainable Future: Resources of Materials & Energy	Unit 8 Guiding Spaceship Earth Towards a Sustainable Future: Resources of Materials & Energy	REVISION: PAST PAPERS	REVISION: PAST PAPERS							

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