

Curriculum intent statement for Science:

**We aim to develop all students into scientists who:**

- **have opportunities to indulge their natural curiosity for science leading to a lifelong passion**
- **are scientifically confident and skilled learners with potential for embarking upon STEM-based careers**
- **have a broad and deep knowledge of the sciences through immersion in our five-year spiral curriculum**

|                         | Autumn 1  | Autumn 2  | Spring 1   | Spring 2  | Summer 1   | Summer 2   |
|-------------------------|---|---|--|---|--|--|
| <b>Year 7</b>           |   |   |  |   |  |  |
| <b>Biology Topics</b>   | Cells, structure and function   |   |  | Reproduction  |  |  |
| <b>Chemistry Topics</b> | Introduction to Science   | Particles and separation techniques   |  |   | The Earth  |  |
| <b>Physics Topics</b>   |   |   | Forces and Motion  |   |  | Energy   |
| <b>Skills</b>           | - Using an equation<br>- Working scientifically: drawing conclusions, identifying and classifying, observing                  | - Using models to represent particles and changes of state<br>- Filtration of a mixture<br>- Crystallisation of a solution<br>- Chromatography of liquids | - select, plan and carry out the most appropriate types of scientific enquiries to test predictions,<br>- use and derive simple equations and carry out appropriate calculations | - Working scientifically: testing a hypothesis, predicting an outcome, drawing conclusions, recording results | - Interpretation of graphical data<br>- Use flow diagrams and charts | - use and derive simple equations and carry out appropriate calculations<br>- make predictions using scientific knowledge and understanding                |
| <b>Links</b>            | NC: Cells and organisation<br>NC: The skeletal and muscular systems<br>NC: Gas exchange systems<br>NC: Working Scientifically | NC: The particulate nature of matter<br>NC: Atoms, elements and compounds<br>NC: Pure and impure substances<br>NC: Working Scientifically                 | NC: Describing motion<br>NC: Forces<br>NC: Pressure in fluids<br>NC: Balanced forces<br>NC: Forces and Motion<br>NC: Working Scientifically                                      | NC: Reproduction<br>NC: Health<br>NC: Working Scientifically  | NC: Earth and atmosphere<br>NC: Working Scientifically               | NC: Calculation of fuel uses and costs in the domestic context<br>NC: Energy changes and transfers<br>NC: Changes in systems<br>NC: Working Scientifically |
| <b>Year 8</b>           |   |   |  |   |  |  |

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| Biology Topics   | Health and Lifestyle  | Health and Lifestyle   | Adaptation and Inheritance   | Adaptation and Inheritance  | Ecosystem Processes   | Ecosystem Processes  |
| Chemistry Topics | Chemical Reactions and Energetics   | Chemical Reactions and Energetics  | Periodic Table   | Periodic Table  | Acids and Bases   | Acids and Bases  |
| Physics Topics   | Space   | Space  | Electricity and Magnetism  | Electricity and magnetism   | Sound and Light   | Sound and Light  |
| Skills           | - make and record observations and measurements   | - ask questions and develop a line of enquiry based on observations of the real world  | - understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence | - present observations and data using appropriate methods, including tables and graphs  | - apply sampling techniques.  | - interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions  |
| Links            | NC Chemical Reactions<br>NC Energetics<br>NC - Nutrition and digestion<br>NC - Health<br>NC: Working Scientifically | NC Chemical Reactions<br>NC Energetics<br>NC - Nutrition and digestion<br>NC - Health<br>NC: Space Physics<br>NC: Working Scientifically | NC The Periodic Table<br>NC: Working Scientifically<br>NC: Inheritance, chromosomes, DNA and genes                             | NC: Current Electricity<br>NC: Static Electricity<br>NC: Magnetism<br>NC: Working Scientifically<br>NC: Inheritance, chromosomes, DNA and genes | NC Chemical Reactions<br>NC - Photosynthesis<br>NC: Cellular Respiration<br>NC: relationships in an Ecosystem<br>NC: Working Scientifically | NC: Observed Waves<br>NC: Sound Waves<br>NC: Energy and Waves<br>NC: Light Waves<br>NC: Photosynthesis<br>NC: Working Scientifically |

**Year 9**

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| Biology Topics | Biomimicry<br>Working scientifically  | Cell structure, cell transport, Cell division  | Cell structure, cell transport, Cell division  | Organisation and the digestive system  | Organisation and the digestive system  | Organising animals and plants   |
| Skills         | - Development of scientific thinking<br>- Experimental skills + strategies<br>- Analysis and Evaluation<br>- Scientific vocabulary, quantities, units, symbols + nomenclature | Microscopy<br>Rearranging and applying formula<br>Predicting, measuring, recording and drawing conclusions<br>Evaluating   | Microscopy<br>Rearranging and applying formula<br>Predicting, measuring, recording and drawing conclusions<br>Evaluating   | Making observations<br>Drawing conclusions   | Making observations<br>Drawing conclusions   | Dissection skills   |
| Links          | NC / AQA SC working scientifically  | NC - Cell biology<br>AQA specification points:<br>4.1.1.1- eukaryotes and prokaryotes, 4.1.1.2 - animal and plant cells<br>4.1.1.3 - cell specialisation<br>4.1.1.4 - cell differentiation | NC - cell biology<br>AQA specification points:<br>4.1.1.1- eukaryotes and prokaryotes, 4.1.1.2 - animal and plant cells<br>4.1.1.3 - cell specialisation<br>4.1.1.4 - cell differentiation | NC - cell biology<br>AQA specification points:<br>4.2.1 - principles of organisation<br>4.2.2.1 - human digestive system | NC - cell biology<br>AQA specification points:<br>4.2.1 - principles of organisation<br>4.2.2.1 - human digestive system | NC - transport systems<br>AQA specification points:<br>4.2.2.2 - the heart and blood vessels<br>4.2.2.3 - blood<br>4.2.3.1 - Plant tissues<br>4.2.3.2 - Plant organ systems |

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|                         |   | 4.1.1.5 - microscopy<br>1.1.3.1 - diffusion<br>4.1.3.2 - osmosis<br>4.1.3.3 - active transport<br>4.1.2 - cell division | 4.1.1.5 - microscopy<br>1.1.3.1 - diffusion<br>4.1.3.2 - osmosis<br>4.1.3.3 - active transport<br>4.1.2 - cell division                          |  |   |   |
| <b>Chemistry Topics</b> | Biomimicry<br>Working Scientifically skills   | Atomic Structure<br>Periodic Table  | Atomic Structure<br>Periodic Table   |  |   |   |
| <b>Skills</b>           | - Development of scientific thinking<br>- Experimental skills + strategies<br>- Analysis and Evaluation<br>- Scientific vocabulary, quantities, units, symbols + nomenclature | The structure, history and development of the atom and periodic table.  | The structure, history and development of the atom and periodic table.   |  |   |   |
| <b>Links</b>            | NC / AQA SC working scientifically  | AQA spec 4.1 Atomic structure and the periodic table  | AQA spec 4.1 Atomic structure and the periodic table   |  |   |   |
| <b>Physics Topics</b>   | Biomimicry<br>Working Scientifically skills   | Energy stores and systems   | Conservation and dissipation of energy   | National and global energy resources   | Physics Revision + preparation for end of year exam<br><br>Helping to teach biology (Organisation and the digestive system) | Physics Revision + preparation for end of year exam<br><br>Helping to teach biology (Organising animals and plants) |
| <b>Skills</b>           | - Development of scientific thinking<br>- Experimental skills + strategies<br>- Analysis and Evaluation<br>- Scientific vocabulary, quantities, units, symbols + nomenclature | -Inputting numbers into calculations<br>-Rearranging equations<br>-Using correct SI units                               | - Planning a practical (specific heat capacity)<br>- Obtaining data<br>- Plotting line graphs + determining the gradient of the line of best fit | - Scientific literacy (quality long answer questions)<br>- Global environmental issues awareness.<br>- Evaluation of Energy generation methods | Exam prep techniques<br><br>Memory recall strategies  | Exam prep techniques<br><br>Memory recall strategies  |
| <b>Links</b>            | NC / AQA SC working scientifically  | (AQA SC) 4.1.1.1 - Energy stores and systems<br>4.1.1.2 - changes in energy<br>4.1.1.4 - power<br>4.1.2.2 - Efficiency  | (AQA SC) 4.1.1.3 - Energy changes in systems<br>4.1.2.1 Energy transfers in a system   | (AQA SC) 4.1.3 - National and global energy resources  |   |   |

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| <b>Biology Topics</b>   | Infection and response  | Infection and Response  | Bioenergetics  | Homeostasis and response  | Inheritance  | Variation and Evolution   |
| <b>Skills</b>           | Aseptic technique<br>Calculating bacterial populations<br>Evaluating scientific theories  | Interpretation of data<br>History of drug development   | Calculating rate-straight line equations<br>Calculating percentage change<br>Investigate the effect of exercise on heart rate<br>Investigating limiting factors rate of photosynthesis | Testing reflex actions<br>Measuring reaction times<br>Investigating newly germinated shoots<br>Interpretation of graphical data | Modelling natural selection<br>Use of qualitative data   | Evaluating use of GM<br>Ethics of cloning                             |
| <b>Links</b>            | NC Health, disease and the development of medicines<br>AQA GCSE Biology 4.3   | NC Health, disease and the development of medicines<br>AQA GCSE Biology 4.3   | NC Cell biology and Photosynthesis<br>AQA GCSE Biology 4.4   | NC Coordination and control<br>AQA GCSE Biology 4.5   | NC Evolution, Inheritance and variation<br>AQA GCSE Biology 4.6                                | NC Evolution, Inheritance and variation<br>AQA GCSE Biology 4.6       |
| <b>Chemistry Topics</b> | Structure and Bonding<br>Chemical Changes   | Chemical Changes<br>Electrolysis  | Electrolysis<br>Chemical Calculations  | Energy Changes<br>Rates of Equilibrium  | Crude Oil and Fuels<br>Organic Reactions (Chemistry Only)                                      | Organic Reactions (Chemistry Only)<br>Paper 1 PPE                     |
| <b>Skills</b>           | The theories, properties, and technology about structures and materials.<br>Formation of new substances in chemical reactions and using acid and alkalis to make salts. | Formation of new substances in chemical reactions and using acid and alkalis to make salts.<br>Practically separating ions using electricity. | Practically separating ions using electricity.<br>Mathematical skills in Chemistry.  | How energy is gained and lost in reactions.<br>Factors affecting the rate of chemical reactions.                                | The process of extracting oil and its uses.<br>Alkenes, Alcohols and other organic compounds.  | Alkenes, Alcohols and other organic compounds.<br>Revision techniques |
| <b>Links</b>            | AQA 4.2 Bonding, Structure and the Properties of Matter.<br>AQA 4.4 Chemical Changes  | AQA 4.4 Chemical Changes  | AQA 4.4 Chemical Changes<br>AQA 4.3 Quantitative Chemistry   | AQA 4.5 Energy Changes<br>AQA 4.6 The Rate and Extent of Chemical Change  | AQA 4.7 Organic Chemistry  | AQA 4.7 Organic Chemistry   |
| <b>Physics Topics</b>   | Particle model of matter and Atomic Structure<br>Electric Circuits  | Electric Circuits<br>Particle model of matter and Atomic Structure  | Complete electric circuits and particle model and atomic structure<br>Forces   | Forces  | Paper 1 preparation and Forces   | Paper 1 PPE<br>Waves  |
| <b>Skills</b>           | Development of scientific ideas<br>Extended writing<br>Building simple circuits<br>Recall and use of  | Development of scientific ideas<br>Extended writing<br>Building simple circuits<br>Recall and use of  | Interpreting data<br>Manipulation and application of equations<br>Drawing scaled vector diagrams   | Extended writing<br>Application and rearrangement of equations<br>Drawing and interpreting                                      | Revision techniques<br>Application of knowledge to wider contexts<br>Required practicals force | Revision techniques<br>Application of knowledge to wider contexts     |

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|                             | equations<br>Required practicals<br>resistance and I-V<br>characteristics, Density  | equations<br>Required practicals<br>resistance and I-V<br>characteristics, Density  |  | graphs<br>Required practicals force<br>and extension and<br>acceleration | and extension and<br>acceleration  |   |
| <b>Links</b>                | AQA SC: Topic 2 Electricity<br>Topic 3 Particle Model of<br>Matter Topic 4 Atomic<br>Structure<br><br>NC: Structure of matter.<br>Atomic Structure and<br>Electricity | AQA SC: Topic 2<br>Electricity Topic 3<br>Particle Model of Matter<br>Topic 4 Atomic Structure<br><br>NC: Structure of matter.<br>Atomic Structure and<br>Electricity | AQA SC: Topic 5 Forces<br><br>NC: Forces and Motion  | AQA SC: Topic 5 Forces<br><br>NC: Forces and Motion                      | Topics 1-4: Energy;<br>Electricity; Particle<br>model of matter; and<br>Atomic structure.<br>Topic 5: Forces<br><br>NC: [Paper 1] Energy,<br>Electricity, Atomic<br>Structure and the<br>Structure of Matter<br>[Paper 2] Forces | Topics 1-4: Energy;<br>Electricity; Particle<br>model of matter; and<br>Atomic structure.<br>Topic 6 Waves<br><br>NC: [Paper 1] Energy,<br>Electricity, Atomic<br>Structure and the<br>Structure of Matter<br>[Paper 2] Forces and<br>Wave motion |
| <b>Year 11</b>              |   |   |  |  |  |   |
| <b>Biology Topics</b>       | Ecology 1   | Ecology 1   | Ecology 2  | Revision   | Revision   | Revision  |
| <b>Skills</b>               | Investigation- Field work   | Investigating rate of<br>decay<br>Calculation of<br>populations   | Graph skills and<br>drawing conclusions<br>Calculating efficiency  | Revision and exam<br>techniques  | Revision and exam<br>techniques  | Revision and exam<br>techniques   |
| <b>Links</b>                | NC Ecosystems<br>AQA GCSE Biology 4.7   | NC Ecosystems<br>AQA GCSE Biology 4.3   | NC Ecosystems<br>AQA GCSE Biology 4.3  |  | AQA Biology Topics 4.1<br>-4.4   | AQA Biology Topics<br>4.5-4.7   |
| <b>Chemistry<br/>Topics</b> | Polymers (Chemistry Only)<br><br>Chemical Analysis  | Paper 1 PPE<br><br>The Earth's Atmosphere<br><br>The Earth's Resources  | The Earth's Resources<br><br>Using Resources<br>(Chemistry Only)   | Paper 2 PPE<br><br>Revisit Year 9 content<br>and Revision                | Revision for Paper 1<br>before half term   | Revision for paper 2  |
| <b>Skills</b>               | Production, uses and<br>disposal of polymers.<br><br>Practical analysis of metals<br>and gases in Chemistry.  | The history, structure<br>and development of the<br>Earth's atmosphere.<br><br>Extraction and use of the<br>Earth's natural<br>resources.                             | Extraction and use of the<br>Earth's natural<br>resources.<br><br>The processes behind<br>the Earth's resources. | Revision and exam<br>techniques  | Revision and exam<br>techniques  | Revision and exam<br>techniques   |
| <b>Links</b>                | AQA 4.7 Organic<br>Chemistry<br><br>AQA 4.8 Chemical Analysis   | AQA 4.9 Chemistry of<br>the Atmosphere<br><br>4.10 Using Resources  | 4.10 Using Resources   |  |  |   |
| <b>Physics Topics</b>       | Forces  | Waves   | Magnetism and  | Revisit Year 9 content   | Revision for Paper 1   | Revision for paper 2  |

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|               | Waves   | Paper 1 PPE<br>Magnetism and<br>electromagnetism  | electromagnetism<br>Space (Physics only)  | and Revision   | before half term  |  |
| <b>Skills</b> | Testing of hypotheses and interpreting data<br>Development of scientific models and applications<br>Numerical analysis of data<br>Required practicals waves and radiation | Extended writing linkage of ideas and concepts<br>Application and manipulation of mathematical equations<br>Required practicals radiation and absorption, [thermal insulation and light (Physics only)] | Development of models and ideas of our universe throughout history<br>A sense of scale and use of significant figures<br>The importance of peer review when analysing and interpreting data | Revision strategies and linkage of ideas throughout topics                             | Revision strategies and linkage of ideas throughout topics                              | Revision strategies and linkage of ideas throughout topics                               |
| <b>Links</b>  | AQA SC: Topic 5 Forces<br>Topic 6 Waves<br><br>NC: Forces, Forces and motion and Wave motion  | AQA SC: Topic 6 Waves<br>Topic 7 Magnetism and Electromagnetism<br><br>NC: Wave motion, Magnetism and electromagnetism  | AQA SC: Topic 7 Magnetism and Electromagnetism<br>Topic 8 Space (Physics only)<br><br>NC: Magnetism and electromagnetism and Space Physics  | AQA SC: Topics 1-4 Energy; Electricity; Particle model of matter; and Atomic structure | AQA SC: Topics 1-4 Energy; Electricity; Particle model of matter; and Atomic structure. | AQA SC: Topics 5 - 8 Forces, Waves, Magnetism and electromagnetism, Space (Physics only) |

| Year 12   |  |  |  |  |  |  |
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| <b>Biology Topics</b><br>(Edexcel SNAB)           | Lifestyle, health and risk<br>Genes and health   | Lifestyle, health and risk<br>Genes and health   | Lifestyle, health and risk<br>Genes and health<br>Voice of the genome<br>Biodiversity and natural resources  | Voice of the genome<br>Biodiversity and natural resources  | Field trip follow-up<br>(techniques and statistics)  | Revision   |
| <b>Biology Skills</b>                             | Practical CPACs<br>Practical 1, 3<br>Command words for examination questions<br>A4 Maths skills<br>(Geometry and trigonometry)   | Practical CPACs<br>Practical 4<br>A3 Maths skills (graphs and data interpretation)                           | Practical CPACs<br>Practical 2   | Practical CPACs<br>Practical 5, 6, 7, 8, 9<br>Longer response questions<br>A1 Maths skills<br>(Handling data)                      | Practical CPACs<br>Practical 10<br>A1, A3, A4 maths skills<br>(Geometry and trigonometry, graphs, handling data) | Practical CPACs<br>A1, A3, A4 maths skills<br>(Geometry and trigonometry, graphs, handling data) |
| <b>Biology Links</b><br>(Edexcel SNAB Bio A spec) | 1.1 - 1.7<br>2.1 - 2.4   | 1.8 - 1.13<br>2.5 - 2.11   | 1.14 - 1.18<br>2.12 - 2.16<br>3.1 - 3.5<br>4.1 - 4.6   | 3.6 - 3.15<br>4.7 - 4.16   | 5.1 - 5.3 (Practical 10)   | 1.1 - 5.3  |
| <b>Chemistry Topics</b>                           | Atomic Structure<br>Quantitative Chemistry<br>Bonding<br>Periodic trends<br>Group 7 Chemistry  | Redox Chemistry<br>Group 2 Chemistry<br>Introduction to Organic Chemistry                                    | Energetics<br>Alkanes<br>Haloalkanes   | Rates of Reaction<br>Equilibria<br>Alkenes<br>Alcohols   | Organic Analysis   | Revision   |
| <b>Chemistry Skills</b>                           | Practical Competencies<br>Required practical 1<br>Required Practical 4 (part 1)<br>Maths skills<br>Units/ratios/standard form/equations/uncertainty                                    | Practical Competencies<br>Required Practical 4 (part 2)<br><br>Maths skills<br>2D and 3D geometry            | Practical Competencies<br>Required Practical 2<br><br>Maths skills<br>Ratios/uncertainty   | Practical Competencies<br>Required Practical 3<br>Required Practical 5<br><br>Maths skills<br>Equations                            | Practical Competencies<br>Required Practical 6<br><br>Maths skills<br>Translate data                             |  |
| <b>Chemistry Links</b>                            | Specification references<br>3.1.1 3.1.2 3.1.3<br>3.2.1. 3.2.3<br>Req pracs section 7.3<br>PS 1.1. 1.2 2.2. 3.3<br>MS 0.0 0.1 0.2<br>MS 1.1 1.2 1.3<br>MS 2.2 2.3 2.4<br>MS 4.1 4.2 4.3 | Specification references<br>3.1.7 3.2.2 3.3.1<br><br>Req pracs section 7.3<br>PS 1.2<br>MS 0.2<br>MS 4.2 4.3 | Specification references<br>3.1.4 3.3.2 3.3.3<br><br>Req pracs section 7.3<br>PS 2.1 2.2 3.1 3.2 3.3<br>MS 0.0 0.1 0.2<br>MS 1.1 1.2 1.3<br>MS 2.2 2.3 2.4 | Specification references<br>3.1.5 3.1.6 3.3.4 3.3.5<br><br>Req pracs section 7.3<br>PS 1.2 2.1 3.2<br>MS 0.0<br>MS 2.1 2.2 2.3 2.4 | Specification references<br>3.3.6<br><br>Req pracs section 7.3<br>PS 1.1 1.2 2.2<br>MS 3.1                       |  |
| <b>Physics Topics</b><br>(Edexcel Concept)        | Working as a Physicist.<br>Waves and Nature of   | Working as a Physicist.<br>Mechanics.  | Working as a Physicist.<br>Electric Circuits (DC).   | Working as a Physicist.<br>Materials.  | Particle Physics and prep for CERN.  | Revision and mocks.<br>Further Mechanics.  |

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| Led)                  | light.<br>Core Practical 6,7,8.  | Core practical 1.  | Core practical 2,3.  | Core practical 4,5.   |   | Core practical 9,10.   |
| <b>Physics Skills</b> | Working in standard form.<br>Estimation.<br>Practical measurement methods.<br>Health and safety.<br>CPAC 1: Follows written procedures CPAC 2: Applies investigative approaches and methods when using instruments and equipment | Dimensional analysis.<br>Base and Derived unit.<br>Linkage to learning in Maths (cross-curricular)<br>Non-routine problem solving.<br>CPAC 1. CPAC 4: Makes and records observations | Multi-stage calculations.<br>Circuit building, troubleshooting and analysis.<br>Linear analysis.<br>CPAC2, CPAC 3: Safely uses a range of practical equipment and materials and CPAC 4 | Longer response skills.<br>Complex algebraic derivations.<br>Communication and team-approach to success.<br>CPAC 1, 2, 3 and 4 and CPAC 5: Researches, references and reports | Limits to measurement.<br>Frontiers in physics. | Exam technique.<br>Analysis and interpretation of Scientific data.<br>Using ICT to analyse situations and process data.<br>CPAC 2, and 5 |
| <b>Physics Links</b>  | Topic 1 - Spec points 1 - 8.<br>Topic 5 - Spec points 59 - 96.   | Topic 1 - Spec points 1 - 8.<br>Topic 2 - Spec points 9 - 30.  | Topic 1 - Spec points 1 - 8.<br>Topic 3 - Spec points 31 - 48.   | Topic 1 - Spec points 1 - 8.<br>Topic 4 - Spec points 49 - 58.  | Topic 8 - Spec points 139 - 142.                | Topic 9 - Spec points 97 - 107.<br>Review of all topics so far.  |

| Year 13  |  |   |  |  |  |   |
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| <b>Biology Topics (Edexcel SNAB)</b>           | On the wild side<br>Infection, immunity and forensics                                      | On the wild side<br>Infection, immunity and forensics   | Run for your life<br>Grey matter   | Run for your life<br>Grey matter   | Paper 3 preparation<br>Revision  | Revision  |
| <b>Biology Skills</b>                          | Practical CPACs<br>Practical 11, 12, 13, 14<br>A2 Maths skills (algebra)<br>Synoptic links | Practical CPACs<br>Practical 15<br>A1, A3, A4 maths skills (Geometry and trigonometry, graphs, handling data)<br>Synoptic links | Practical CPACs<br>Practical 16, 17<br>A1, A2, A3, A4 maths skills (Geometry and trigonometry, graphs, handling data, algebra)<br>Synoptic links | Practical CPACs<br>Practical 18<br>A1, A2, A3, A4 maths skills (Geometry and trigonometry, graphs, handling data, algebra)<br>Synoptic links | A1, A2, A3, A4 maths skills (Geometry and trigonometry, graphs, handling data, algebra)<br>Synoptic links<br>Pre-release - reading for meaning | Synoptic links<br>Pre-release - reading for meaning |
| <b>Biology Links (Edexcel SNAB Bio A spec)</b> | 5.1 - 5.11<br>6.1 - 6.5 / 6.15   | 5.12 - 5.22<br>6.6 / 6.11 - 6.15  | 7.1 - 7.10<br>8.1 - 8.7  | 7.11 - 7.16<br>8.8 - 8.19  |  |   |



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| <b>Chemistry Topics</b> | Rate Equations<br>Aldehydes and Ketones<br>Optical Isomers<br>Equilibrium Constant Kp<br>Thermodynamics<br>Acid and Bases<br>Transition Metals  | Ions in Aqueous Solution<br>Carboxylic Acid<br>Derivatives<br>Electrode Potentials   | Amines<br>Period 3<br>Polymers<br>Aromatic Chemistry<br>Amino<br>Acids/proteins/DNA   | Organic Synthesis<br>NMR<br>Chromatography   | Paper 3 Prep - Data<br>Handling/Practical<br>Revision  | Revision   |
| <b>Chemistry Skills</b> | Practical 7<br>Practical 9<br>Practical Skills -<br>PS3.2,3.1,3.2,4.1,2.4<br>Maths Skills (Numerical<br>computation)- 0.1,<br>0.0,0.3,0.4<br>Maths Skill (handling<br>Data) - 1.1<br>Algebra -2.2,2.4,2.5<br>Graphs 3.1,3.2,3.3<br>Synoptic Links | Practical 11<br>Practical 10<br>Practical Skills -<br>PS4.1,3.2,1.1<br><br>Maths Skills - Handling<br>Data 1.1<br>Synoptic Links | Synoptic Skills<br>Application and<br>Evaluative skills   | Practical 12<br><br>Practical Skills-<br>1.2,3.2,4.1<br>Maths Skills Ratio Rf<br>calc in Chromatography)<br>Synoptic Skills                    | Mathematical Skills<br>focus on data handling<br>and evaluative skills<br>Practical skills and<br>techniques linked to<br>extended questions | Exam Technique.<br>Analysis, application an<br>evaluative skills       |
| <b>Chemistry Links</b>  | 3.1.9<br>3.3.8<br>3.3.7<br>3.1.10<br>3.1.8<br>3.1.12<br>3.2.5   | 3.2.6<br>3.3.9<br>3.1.11   | 3.3.11<br>3.2.4<br>3.3.12<br>3.3.10<br>3.3.13   | 3.3.14<br>3.3.15<br>3.3.16   |  |  |
| <b>Physics Topics</b>   | Electric and Magnetic<br>Fields<br><br>Nuclear and Particle<br>Physics complete<br><br>Core practical 11.   | Electric and Magnetic<br>Fields<br><br>Thermodynamics<br><br>Core practical 12,13 and<br>14.                                     | Gravitational Fields<br><br>Nuclear Radiation<br><br>Core practical 15.   | Space<br><br>Oscillations<br><br>Core practical 16.  | Revision   | Revision and<br>examinations   |
| <b>Physics Skills</b>   | Building capacitors using<br>household items.<br><br>Inverse - Square<br>relationships.<br><br>CPAC 2, 3, and 5   | Non-linear relationships.<br><br>Indicative content<br>extended writing<br>practice.<br><br>CPAC 2, 3, 4 and 5                   | Scientific modelling of<br>stochastic processes.<br><br>Linkage to previous<br>learning.<br><br>Collaborative problem<br>solving.<br><br>Health and safety.<br><br>CPAC 2,3 and 5 | Application of calculus to<br>scientific analysis.<br><br>Synoptic view of the<br>universe (linkage to<br>previous learning).<br><br>CPAC 2, 4 | Linkage and synopsis.<br><br>Adaptability and coping<br>with pressure.   | Examination technique.<br><br>Self-management and<br>self-development. |

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| <b>Physics Links</b> | Topic 7- Spec points -<br>108 - 129.<br><br>Topic 8 - Spec points -<br>130 - 138. | Topic 7- Spec points -<br>108 - 129.<br><br>Topic 9 - Spec points<br>144 - 155. | Topic 12 - Spec points<br>174 - 180.<br><br>Topic 11 - Spec points<br>164 - 173. | Topic 10 - Spec points<br>156 - 163.<br><br>Topic 13 - Spec points<br>181 - 191. | All topics. | All topics. |
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