

The Quality of Education: **Science - Curriculum Map**



St Christopher's:
A Church of England Academy

Science - Curriculum Map

Key Stage 3:

Year	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
7	<p>Topic: C1 Particles - Diffusion</p> <p>Topic: B1 Cells and Organs - Microscopy</p>	<p>Topic: B1 Cells and Organs - Microscopy</p> <p>Topic: P1 Forces</p> <p><i>Test</i></p>	<p>Topic: C2 Reactions - Conservation of mass</p> <p>Topic: B2 Animal Reproduction</p>	<p>Topic: B2 Animal Reproduction</p> <p>Topic: P2 Energy - Burning foods</p>	<p><i>Test</i></p> <p>Topic: C3 Acids and Alkalis - Antacid investigation</p> <p>Topic: B3 Plant Reproduction - Seed dispersal</p>	<p>Topic: B3 Plant Reproduction - Seed dispersal</p> <p>Topic: P3 Sound Waves</p> <p><i>Test</i></p>
8	<p>Topic: B4 Breathing and Respiration</p> <p>Topic: C4 Separation Techniques - Distillation</p>	<p>Topic: P4 Energy - Insulation</p> <p><i>Test</i></p> <p>Topic: B5 Lifestyle - Testing for carbohydrates</p>	<p>Topic: C5 Reactions of Metals</p> <p>Topic: P5 Light</p>	<p>Topic: P5 Light</p> <p><i>Test</i></p> <p>Topic: B6 Ecosystems - Pondweed</p>	<p>Topic: B6 Ecosystems - Pondweed</p> <p>Topic: C6 The Earth</p> <p>Topic: P6 Electricity - Resistance in a wire</p>	<p>Topic: P6 Electricity - Resistance in a wire</p> <p><i>Test</i></p> <p>Topic: P7 Electromagnets - Investigating coil in a wire</p> <p><i>Test</i></p>
9	<p>Topic: Space</p> <p>Topic: Ecosystems</p>	<p>Topic: Genes</p> <p><i>Revision week</i></p> <p><i>Test</i></p>	<p>Topic: C1 Separation Techniques - Chromatography</p>	<p>Topic: C1 Separation Techniques - Chromatography</p> <p>Topic: P1 Energy stores, resources and matter - Determining densities</p>	<p>Topic: P1 Energy stores, resources and matter - Determining densities</p> <p>Topic: B1 Cell Structure, Microscopes and Transport in Cells - Microscopy</p>	<p>Topic: B1 Cell Structure, Microscopes and Transport in Cells - Microscopy</p>

Key Stage 4: Combined Science

Year	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
10	<p>Topic: B2 Plants and Photosynthesis - Photosynthesis</p> <p>Topic: C2 Bonding and the Periodic Table</p> <p>Topic: P2 Energy Calculations and Heating - Specific heat Capacity</p>	<p>Topic: B3 Respiration - Respiration</p> <p>Topic: C2 Bonding and the Periodic Table (cont.)</p> <p>Topic: P2 Energy Calculations and Heating (cont.)</p> <p>Topic: P3 Electricity - Length of a wire, series and parallel</p> <p>Topic: B4 Biological Molecules, Enzymes and Digestion - Food tests, enzymes</p>	<p><i>Work Experience (2wks)</i></p> <p>Topic: B4 Biological Molecules, Enzymes and Digestion (cont.)</p> <p>Topic: C3 Metals and their Reactions - Electrolysis and making salts</p> <p>Topic: P3 Electricity (cont.)</p>	<p>Topic: B5 Organisation in Animals</p> <p>Topic: C3 Metals and their Reactions (cont.)</p> <p>Topic: P3 Electricity (cont.)</p> <p>Topic: P4 Radioactivity</p> <p>Topic: B6 Diseases</p> <p>Topic: C4 Energy Changes - Exo and Endo</p>	<p>Topic: B6 Diseases</p> <p>Topic: C4 Energy Changes (cont.)</p> <p>Topic: P4 Radioactivity</p> <p>Topic: P5 Waves and Light - Speed of a wave</p> <p>Topic: C5 Rates and Equilibrium - Concentration</p> <p><i>Year 10 Exams</i></p>	<p><i>Year 10 Exams</i></p> <p>Topic: B7 The Nervous System - Reaction times</p> <p>Topic: C5 Rates and Equilibrium (cont.)</p> <p>Topic: P5 Waves and Light (cont.)</p>
11	<p>Topic: B11</p> <p>Topic: C8</p> <p>Topic: P13 - Infrared colour absorption/emission</p> <p>Topic: B13 and B14</p>	<p>Topic: B13 and B14 (cont.)</p> <p>Topic: C8 (cont.)</p> <p>Topic: P8</p> <p>Topic: C12</p> <p>Topic: B15</p> <p>Topic: C13</p>	<p>Topic: B16 and B17 - Sampling</p> <p>Topic: C13 (cont.)</p> <p>Topic: P9 and P10 - $F=ma$; Hooke's Law</p> <p>Topic: C14</p>	<p>Topic: B18</p> <p>Topic: C14 (cont.)</p> <p>Topic: P9 and P10</p> <p>Topic: P15</p> <p><i>Revision</i></p>	<p><i>Revision</i></p> <p><i>Year 11 Exams</i></p>	<p><i>Year 11 Exams</i></p>

Key Stage 4: Triple Science

Year	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
10	<p>Topic: B2 Plants and Photosynthesis - Photosynthesis</p> <p>Topic: C2 Bonding and the Periodic Table</p> <p>Topic: P2 Energy Calculations and Heating - Specific heat Capacity</p>	<p>Topic: B2 Plants and Photosynthesis (cont.)</p> <p>Topic: C2 Bonding and the Periodic Table (cont.)</p> <p>Topic: P3 Electricity - Length of a wire, series and parallel</p> <p>Topic: B3 Respiration - Respiration</p> <p>Topic: C3 Metals and their Reactions - Electrolysis and making salts</p>	<p><i>Work Experience (2wks)</i></p> <p>Topic: B4 Biological Molecules, Enzymes and Digestion - Food tests, enzymes</p> <p>Topic: C3 Metals and their Reactions (cont.)</p> <p>Topic: P4 Radioactivity</p>	<p>Topic: B5 Organisation in Animals</p> <p>Topic: C4 Energy Changes - Exo and Endo</p> <p>Topic: P4 Radioactivity (cont.)</p> <p>Topic: P5 Waves and Light - Speed of a wave, IR</p> <p>Topic: B6 Diseases - Growing bacteria, antibiotics</p> <p>Topic: C5 Rates and Equilibrium - Concentration</p>	<p>Topic: B6 Diseases (cont.)</p> <p>Topic: C5 Rates and Equilibrium (cont.)</p> <p>Topic: P5 Waves and Light - Speed of a wave, IR</p> <p>Topic: C6 Chemical Calculations - Titration</p> <p><i>Year 10 Exams</i></p>	<p><i>Year 10 Exams</i></p> <p>Topic: B7 The Nervous System - Reaction times</p> <p>Topic: C6 Chemical Calculations (cont.)</p> <p>Topic: P6 Space</p>
11	<p>Topic: B10 - Finishing Off</p> <p>Topic: C8 - Finishing Off</p> <p>Topic: P16 - Finishing Off</p> <p>Topic: B11 and B12</p> <p>Topic: C9, C10 and C11</p> <p>Topic: P8 and P9</p>	<p>Topic: B13 and B14</p> <p>Topic: C12 and C13</p> <p>Topic: P9 (cont.)</p> <p>Topic: P10</p>	<p><i>Year 11 PPEs</i></p> <p>Topic: B15</p> <p>Topic: C14 and C15</p> <p>Topic: P11 and P14</p> <p>Topic: C14</p>	<p>Topic: B16, B17 and B18</p> <p>Topic: C15</p> <p>Topic: P14 and P15</p> <p><i>Revision</i></p>	<p>Topic: B18 (cont.)</p> <p>Topic: P15 (cont.)</p> <p><i>Revision</i></p> <p><i>Year 11 Exams</i></p>	<p><i>Year 11 Exams</i></p>

Key Stage 5: Year 12

Curriculum	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Biology	<ul style="list-style-type: none"> Maths Skills Organelles Microscopy Biological Molecules Nucleotides and Nucleic Acids 	<ul style="list-style-type: none"> Biological Molecules Nucleotides and Nucleic Acids <p>PPEs</p> <ul style="list-style-type: none"> Biological Molecules Cell Division, Cell Diversity and Cellular Organisation Biological Membranes 	<ul style="list-style-type: none"> Biological Membranes Cell Division, Cell Diversity and Cellular Organisation Exchange Surfaces Enzymes 	<ul style="list-style-type: none"> Exchange Surfaces Enzymes Transport in Plants Transport in Animals Communicable Diseases 	<ul style="list-style-type: none"> Transport in Animals Communicable Diseases Biodiversity Part 1 Evolution 	<ul style="list-style-type: none"> Biodiversity Part 2 Evolution Communication Classification <p>Revision</p> <p>PPEs</p> <p>Work Experience</p>
Chemistry	<ul style="list-style-type: none"> Course Intro and Basics Quantitative Chemistry - The Mole Atomic Structure and Evidence for Electron Configuration Acids, Bases and Salts 	<ul style="list-style-type: none"> Quantitative Chemistry - The Mole Acids, Bases and Salts Redox Chemical Trends of Group 2 and 7 Periodicity and Ion Testing Bonding and Structure - Shapes, Properties and Forces 	<ul style="list-style-type: none"> Thermodynamics Nomenclature and Isomerism Alkanes and Alkenes Kinetics 	<ul style="list-style-type: none"> Kinetics Haloalkanes and Alcohols Equilibrium 	<ul style="list-style-type: none"> Equilibrium Spectroscopy and Analysis <p>Revision</p> <p>AS official exams</p>	<ul style="list-style-type: none"> Chromatography and Analysis NMR Spectroscopy <p>PPEs</p> <p>Work Experience</p> <p>Drug Research Project Work</p>
Physics	<ul style="list-style-type: none"> Introduction Chapter 14 Uncertainty Chapter 1 Matter Chapter 2 Particle Chapter 3 QM 	<ul style="list-style-type: none"> Chapter 3 QM Chapter 4 Waves Chapter 5 Optics <p>PPEs</p> <ul style="list-style-type: none"> Chapter 6 Forces 	<ul style="list-style-type: none"> Chapter 6 Forces Chapter 7 Mechanics Chapter 8 Newtons Laws 	<ul style="list-style-type: none"> Chapter 9 Momentum Chapter 10 Work Chapter 11 Materials 	<ul style="list-style-type: none"> Chapter 12 and 13 Circuits Chapter 18 Thermal Chapter 19 Gases 	<ul style="list-style-type: none"> Chapter 10 Gases <p>Revision</p> <p>PPEs</p> <p>Work Experience</p>

Key Stage 5: Year 13

Curriculum	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Biology	<ul style="list-style-type: none"> Introduction Communication Neuronal Communications Hormonal Communication Animal Responses The Liver 	<ul style="list-style-type: none"> Statistics The Kidney Plant Responses Photosynthesis <p>PPEs</p> <ul style="list-style-type: none"> Photosynthesis Patterns of Inheritance Part 1 	<ul style="list-style-type: none"> Photosynthesis Patterns of Inheritance Part 1 Respiration Patterns of Inheritance Part 2 Cellular Control 	<ul style="list-style-type: none"> Cellular Control Patterns of Inheritance Part 2 Cloning Manipulating Genomes Biotechnology Ecosystems Populations and Sustainability 	<ul style="list-style-type: none"> Ecosystems Populations <p>Revision</p>	PPEs
Chemistry	<ul style="list-style-type: none"> Thermodynamics, Lattice Enthalpy, Entropy and Free Energy Carbonyl Chemistry Carboxylic acids and their derivatives Kinetics and the Rate Equation Aromatic Chemistry 	<ul style="list-style-type: none"> Kinetics and the Rate Equation Aromatic Chemistry Chromatography and Instrumental Analysis <p>PPEs</p>	<ul style="list-style-type: none"> Quantitative Equilibrium Kc and Kp Organic Nitrogen Chemistry Redox and Titrations Acid Base Equilibrium 	<ul style="list-style-type: none"> Acid Base Equilibrium Redox Potential Transition Metal Complexes 	Revision	PPEs
Physics	<ul style="list-style-type: none"> Catch Up Chapter 20 SHM Chapter 21 Gravitational Fields Chapter 22 Electric Fields Op Engineering 	<ul style="list-style-type: none"> Chapter 22 Electric Fields Chapter 23 Capacitors Op Engineering <p>PPEs</p> <ul style="list-style-type: none"> Chapter 23 Capacitors Op Engineering 	<ul style="list-style-type: none"> Chapter 24 Magnetic Fields Chapter 25 EM Induction Chapter 26 Rad Chapter 27 Nuclear 	<ul style="list-style-type: none"> Chapter 25 EM Chapter 27 Nuclear <p>Revision</p>	Revision	PPEs