

Science Curriculum Map

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Year 7 Assessments are completed at the end of part 1 and part 2 on the content delivered so far.</p> <p>Students have an end of year test in the final term</p>	<p>Intro to Science topic- Covering key skills and fundamentals in Science. Students have a baseline assessment here.</p> <p>Biology Part 1- What would happen if all the plants on earth disappeared? Food chains, nutrition, diet and energy flows, ecosystems, digestive system and enzymes.</p>	<p>Biology Part 1 continued Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry Part 1- How can invisible particles explain everything? Changes of state, diffusion, physical changes.</p>	<p>Chemistry Part 1 continued... Assessment takes place here on this unit/ content covered so far</p> <p>Physics Part 1- How do invisible forces shape the world around us? Forces, balanced and unbalanced forces, Hooke's law, Pressure in solids, liquids and gases.</p>	<p>Physics Part 1 continued... Assessment takes place here on this unit/ content covered so far</p> <p>Biology Part 2- How does your body stay alive without thinking about it? Life processes, cells, levels of organisation, diffusion in cells, practical skills.</p>	<p>Biology Part 2 continued Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry Part 2- How does the earth recycle its materials? Rock cycle, Material from the earth, recycling and polymers and practical skills.</p>	<p>Chemistry Part 2 continued Assessment takes place here on this unit/ content covered so far</p> <p>Physics Part 2- How do invisible forces shape what we experience every day? The earth, the solar system, mass and weight and Magnets.</p>
<p>Year 8 Assessments are completed in lessons at the end of Part 1 and Part 2.</p> <p>End of Year Test in final term.</p>	<p>Physics Part 1- What is energy and why can't we run out of it?</p> <p>Energy stores, Energy transfer, Energy dissipation Energy conservation</p> <p>Biology Part 1- How do plants and animals get the energy they need to stay alive?</p> <p>Retrieval of Cells and Food webs,</p>	<p>Physics Part 1- What is energy and why can't we run out of it?</p> <p>Efficiency Series and Parallel circuits, Insulators and Conductors in circuits</p> <p>Chemistry Part 1- What is everything made of and how do we know?</p> <p>Periodic table, Elements, Compounds and Mixtures</p>	<p>Physics Part 1- What is energy and why can't we run out of it?</p> <p>Static Electricity, Different types of fuels Analysis of graphs</p> <p>Physics Part 1 Assessment</p> <p>Biology Part 2- How do humans and plants survive and reproduce?</p> <p>Gas exchange in plants and animals, Exercise vs Smoking, Skeletal</p>	<p>Physics Part 2- How do waves and energy travel?</p> <p>Transverse and longitudinal waves Sound waves Light vs Sound Convex lenses</p> <p>Biology Part 2 continued...</p> <p>Health sleep and drugs, Seed dispersal and food security</p>	<p>Physics Part 2- How do waves and energy travel?</p> <p>Reflection and Refraction Conduction, Convection, Radiation</p> <p>Physics Part 2 Assessment</p> <p>Chemistry Part 2- How do chemical reactions change the world around us?</p> <p>Chemical change, Conservation of mass, Energy changes in</p>	<p>Physics Revision (Parts 1 and 2)</p> <p>Chemistry Revision (Parts 1 and 2)</p> <p>Biology Revision (Parts 1 and 2)</p> <p>End of Year 8 Test: Biology, Chemistry and Physics, scientific skills and subject knowledge assessed.</p> <p>Health Discovery Week: Mobile phone Sleep Well being</p>

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	Photosynthesis, Aerobic and Anaerobic respiration Biology Part 1 Assessment	Purity Separation techniques: Filtration, Crystallisation Chemistry Part 1 Assessment	and Muscular systems, Male and Female Reproductive system, Gestation and birth, Plant reproduction. Biology Part 2 Assessment	Biology Part 2 Assessment	reactions, Catalysts, Acid and Alkali, Making indicators, Thermal decomposition, Combustion, Global warming Chemistry Part 2 Assessment	
<p>Year 9</p> <p>Assessments are completed at the end of each topic as well as mid-point assessments that include short answer questions and multiple-choice items.</p> <p>End of Year 9 Exam covering all three Sciences studied.</p>	<p>Biology Cellular function 1 Animal and Plant cells Bacterial cells Specialised Cells Microscopes Assessment</p> <p>Physics Motion Vectors/Scalars Measuring and calculating speed Calculating Acceleration Motion Graphs Assessment</p>	<p>Chemistry Atomic structure Atomic number and mass number Electronic configuration Isotopes The periodic table Assessment</p> <p>Chemistry Matter and mixtures States of matter Change of State Elements Compound and Mixtures Solubility Chromatography, Distillation, Filtration, Crystallisation Water Purification Assessment</p>	<p>Biology Cellular function 2 Enzymes Osmosis Diffusion Active transport Assessment</p> <p>Physics Newton's Laws Newton's 1st Law $F=Ma$ Weight and Mass Centripetal force Newton's 3rd Law Momentum and Collisions Assessment</p>	<p>Chemistry Acid and Alkalis pH and Indicators Household Acids Neutralisation Reactions of Acids Assessment</p> <p>Physics Newton's Law (continued) Reaction time and Stopping distance</p> <p>Energy Energy Stores and transfers Efficiency, Sankey diagrams and reducing waste Energy Calculations</p>	<p>Biology Health and Disease Communicable diseases Spreading Pathogens Non-communicable diseases Cardiovascular disease</p> <p>Physics Energy (continued) Conductivity and Insulation Energy Resources and patterns Assessment</p>	<p>Biology Health and Disease (continued) Physical and Chemical barriers Antibiotics</p> <p>Revision: Biology, Chemistry and Physics</p> <p>End of Year 9 Exam</p> <p>Health Discovery Week: Alcohol Drugs Vaping</p>

Science Curriculum Map

<p>Year 10</p> <p>Assessments are completed at the end of each topic</p> <p>Small assessments are also conducted at mid points in the topics. These normally consist of small sets of exam style questions, 6 mark questions or multiple choice tests</p> <p>Students have a synoptic exam in the spring term</p>	<p>Biology CB5 Health, Disease and Development of Medicines Health and Disease STI's Immune system Immunisations and Antibiotics Development of medicines Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC5-7 Bonding Ionic, covalent and metallic bonding Names, formulae and properties of compounds Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP4 Waves Transverse and Longitudinal Wave calculations Refraction Wave properties</p>	<p>Biology CB2 Genetics Mitosis Growth in animals and plants Nerves and Nervous transmission Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC8 Chemical Change: Acids and Alkalis Reactions of Acids Soluble and Insoluble salts Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP5 Electromagnetic Spectrum Properties of the EM spectrum Uses and dangers of the EM spectrum Assessment takes place here on this unit/ content covered so far</p>	<p>Biology CB8 Exchange and Transport in Animals Exchange surfaces The Circulatory System Respiration Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC9 Key concepts in Chemistry: Chemical calculations</p> <p>Physics CP6 Radioactivity The Atomic Model Ionisation Types of Radiation Decay Background Radiation Half Life Dangers and Safety</p>	<p>Biology CB4 Natural Selection and Genetic Modification Natural selection and Evolution Classification Selective Breeding Genetic Engineering</p> <p>Chemistry CC9 Key concepts in Chemistry: Chemical calculations Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP6 Radioactivity continued... Assessment takes place here on this unit/ content covered so far</p>	<p>Biology CB4 continued... Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC10/12 Extraction and equilibrium: Metal reactivity Metal extraction Electrolysis Equilibrium Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP8 Energy & Forces Energy stores and transfers Work done Energy calculations Power Efficiency</p>	<p>Biology CB9 Ecosystems and Material Cycles Ecosystems Biodiversity Carbon cycle Nitrogen cycle Water cycle</p> <p>Chemistry CC13 Periodic table Group 1, Group 7, Group 0 Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP15 Forces and Matter Properties of Materials Elastic and inelastic deformation Hooke's Law Pressure, force & area</p>
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Science Curriculum Map

Year 11	Biology	Biology	Biology	Biology	EXAMS	EXAMS
<p>Assessments are completed at the end of each topic</p> <p>Small assessments are also conducted at mid points in the topics. These normally consist of small sets of exam style questions, 6 mark questions or multiple choice tests</p> <p>Students have a synoptic exams in the Autumn and Spring term</p>	<p>Biology CB9 Ecosystems and Material Cycles Ecosystems Biodiversity Carbon cycle Nitrogen cycle Water cycle Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC14/15 Rates and energy Collision theory Rates of reaction (kinetics) Endo and exothermic reactions Bond energies</p> <p>Physics CP9 Electricity Circuit Symbols Current and voltage Ohm's Law Series and Parallel Resistance IV Graphs Sensors AC/DC Energy and Power Plug Safety Assessment takes place here on this unit/ content covered so far</p>	<p>Biology CB6 Plant Structures and their Functions Photosynthesis Limiting factors Transport in plants Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC14/15 Rates and energy Collision theory Rates of reaction (kinetics) Endo and exothermic reactions Bond energies Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP12/13 Particle Model and Matter States of Matter Changes of State Density Gas Pressure Specific Heat Capacity Specific Latent Heat Assessment takes place here on this unit/ content covered so far</p>	<p>Biology CB7 Animal coordination, Control and Homeostasis Hormones and Homeostasis Menstrual Cycle Control of Fertility Diabetes Assessment takes place here on this unit/ content covered so far</p> <p>Chemistry CC16/17 Fuels and atmosphere Fractional distillation and cracking Combustion and pollution Atmosphere Assessment takes place here on this unit/ content covered so far</p> <p>Physics CP10/11 Magnetism and EM Induction Magnetic Fields Electromagnetism Fleming's LHR The Motor Effect Transformers and The National Grid Assessment takes place here on this</p>	<p>REVISION AND EXAM PREP</p> <p>Chemistry</p> <p>REVISION AND EXAM PREP</p> <p>Physics</p> <p>REVISION AND EXAM PREP</p>		

Science Curriculum Map

<p>Year 12</p> <p>Assessments are completed at the end of each topic and/ or half termly.</p> <p>Small assessments are also conducted at mid points in the topics. These normally consist of small sets of exam style questions, 6 mark questions or multiple choice tests.</p> <p>Students have a synoptic exams in the Autumn and Spring term.</p>	<p>Biology Topic 1 - Biological Molecules</p> <p>Topic 2 - Cells, Viruses and Reproduction of Living Things</p> <p>Chemistry Topic 1 - Atomic Structure & The Periodic Table</p> <p>Topic 2 – Bonding & Structure</p> <p>Topic 6 - Intro to Organic Chemistry</p> <p>Physics Topic 1 – Working as a Physicist</p> <p>Topic 2 – Mechanics</p> <p>Topic 3 - Electric Circuits</p> <p>Topic 5 - Waves & Particle Nature of Light</p>	<p>Biology Topic 1 - Biological Molecules</p> <p>Topic 2 - Cells, Viruses and Reproduction of Living Things</p> <p>Chemistry Topic 2 – Bonding & Structure</p> <p>Topic 5 - Formulae, Equations & Amounts of Substances</p> <p>Topic 6 - Intro to Organic Chemistry</p> <p>Physics Topic 1 – Working as a Physicist</p> <p>Topic 2 – Mechanics</p> <p>Topic 3 - Electric Circuits</p> <p>Topic 5 - Waves & Particle Nature of Light</p>	<p>unit/ content covered so far</p> <p>Biology Topic 3 - Classification and Biodiversity</p> <p>Topic 4 - Exchange and Transport</p> <p>Chemistry Topic 3 - Redox 1</p> <p>Topic 4 - Inorganic Chemistry & The Periodic Table</p> <p>Topic 6 - Intro to Organic Chemistry</p> <p>Physics Topic 5 - Waves & Particle Nature of Light</p> <p>Topic 4 – Materials</p>	<p>Biology Topic 3 - Classification and Biodiversity</p> <p>Topic 4 - Exchange and Transport</p> <p>Chemistry Topic 10 – Equilibrium</p> <p>Topic 8 – Energetics</p> <p>Topic 7 - Modern Analytical Techniques 1</p> <p>Physics Topic 5 - Waves & Particle Nature of Light</p> <p>Topic 4 – Materials</p>	<p>Biology Topic 10 - Ecosystems</p> <p>Chemistry Topic 13 - Energetics II</p> <p>Topic 9 – Kinetics</p> <p>Physics Topic 11 - Nuclear Radiation</p> <p>Topic 8 - Nuclear & Particle Physics</p>	<p>Biology Topic 10 – Ecosystems</p> <p>Chemistry Topic 13 - Energetics II</p> <p>Topic 9 – Kinetics</p> <p>Physics Topic 11 - Nuclear Radiation</p> <p>Topic 8 - Nuclear & Particle Physics</p> <p>Topic 6 - Further Mechanics</p>
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Science Curriculum Map

Year 13	Biology	Biology	Biology	Biology	EXAMS	EXAMS
<p>Assessments are completed at the end of each topic and/ or half termly.</p> <p>Small assessments are also conducted at mid points in the topics. These normally consist of small sets of exam style questions, 6 mark questions or multiple choice tests.</p> <p>Students have a synoptic exams in the Autumn and Spring term.</p>	<p>Topic 7 - Modern Genetics</p> <p>Topic 5 - Energy for Biological Processes</p> <p>Topic 9 - Control Systems</p> <p>Chemistry</p> <p>Topic 11 - Equilibrium II</p> <p>Topic 12 - Acid-Base Equilibria</p> <p>Topic 17 - Organic Chemistry II</p> <p>Physics</p> <p>Topic 6 - Further Mechanics</p> <p>Topic 8 - Nuclear & Particle Physics</p>	<p>Topic 8 - Origins of Genetic Variation</p> <p>Topic 5 - Energy for Biological Processes</p> <p>Topic 9 - Control Systems</p> <p>Chemistry</p> <p>Topic 16 - Kinetics II</p> <p>Topic 17 - Organic Chemistry II</p> <p>Physics</p> <p>Topic 6 - Further Mechanics</p> <p>Topic 13 – Oscillations</p> <p>Topic 9 – Thermodynamics</p> <p>Topic 11 – Radioactivity</p>	<p>Topic 8 - Origins of Genetic Variation</p> <p>Topic 6 - Microbiology and Pathogens</p> <p>Topic 5 - Energy for Biological Processes</p> <p>Topic 9 - Control Systems</p> <p>Chemistry</p> <p>Topic 14 - Redox II</p> <p>Topic 15 - Transition Metals</p> <p>Topic 18 - Organic Chemistry III</p> <p>Physics</p> <p>Topic 6 - Further Mechanics</p> <p>Topic 10 – Space</p> <p>Topic 7 - Electric & Magnetic Fields</p> <p>Topic 9 – Thermodynamics</p>	<p>Topic 6 - Microbiology and Pathogens</p> <p>Topic 5 - Energy for Biological Processes</p> <p>Topic 9 - Control Systems</p> <p>Chemistry</p> <p>Topic 18 - Organic Chemistry III</p> <p>Topic 15 - Transition Metals</p> <p>Topic 19 - Modern Analytical Techniques II</p> <p>Physics</p> <p>Topic 10 – Space</p> <p>Topic 12 – Gravitational Fields</p> <p>Topic 9 – Thermodynamics</p> <p>Topic 7 - Electric & Magnetic Fields</p> <p>Topic 13 – Oscillations</p>	<p>Physics</p> <p>Topic 12 - Gravitational Fields</p> <p>13 – Oscillations</p>	

Science Curriculum Map

Useful links:

YEARS 9, 10 AND 11

EDEXCEL Combined Science Specification <https://bit.ly/388Eug5>

EDEXCEL Triple Biology Specification <https://bit.ly/3wh0l6u>

EDEXCEL Triple Chemistry Specification <https://bit.ly/3wh0vuC>

EDEXCEL Triple Physics Specification <https://bit.ly/3vW1fq5>

YEARS 12 AND 13

EDEXCEL A LEVEL Biology B Specification <https://bit.ly/3soXiZ4>

EDEXCEL A LEVEL Chemistry Specification <https://bit.ly/3kUksCs>

EDEXCEL A LEVEL Physics Specification <https://bit.ly/3Kuw8uv>

YEARS 9-13

Seneca Learning <https://senecalearning.com/en-GB/>

Physics and Maths tutor <https://www.physicsandmathstutor.com>

SNAPREVISE <https://snaprevise.co.uk>

ALL YEARS-

BBC Bitesize

<https://www.bbc.co.uk/bitesize/secondary>

FREESCIENCELESSONS on YouTube

<https://www.youtube.com/c/freesciencelessons>