

## Curriculum Overview for Year 7 in Science (NEW COURSE)

**Year 7 Assessment point 1:** end of topic formative assessment at end of unit, Term 1 test week 5th December

**Year 7 Assessment point 2:** end of topic formative assessment at end of unit, Term 1 test week 22nd March

**Year 7 Assessment point 3:** end of topic formative assessment at end of unit, Term 1 test week 16th July

**Date of Interim Assessment:** dates of assessment week

**Date of Masters Assessment:** date of assessment week

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
<p>Knowledge and skills which will be covered this year</p> <p>Practical and investigative work is taught within the content,</p>	<p><b>Introduction and Safety</b></p> <ul style="list-style-type: none"> <li>Laboratory design, safety and equipment</li> <li>Assessing risks</li> <li>Selecting equipment for a task</li> <li>Using a Bunsen</li> <li>Measuring techniques</li> </ul> <p><b>Particles</b></p>	<p><b>Ecosystems</b></p> <ul style="list-style-type: none"> <li>Food chains and food webs, extracting information</li> <li>How animals in food chains affect each other</li> <li>Pesticides and predators: how do they affect other organisms in the food chain?</li> <li>How do organisms compete with each other?</li> </ul>	<p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>Revise: conductors and insulators</li> <li>What makes a circuit?</li> <li>Components in circuits, series and parallel circuits</li> <li>Resistance in circuits</li> <li>Electrical safety</li> </ul>	<p><b>Acids and alkalis, metals and non-metals</b></p> <ul style="list-style-type: none"> <li>Chemical changes (reactions)</li> <li>Acid properties</li> <li>Alkalis and bases</li> <li>Investigating acid reactions- indigestion remedies</li> <li>Neutralisation and making salts</li> <li>Oxidation reactions</li> <li>Metals and</li> </ul>	<p><b>Waves</b></p> <ul style="list-style-type: none"> <li>Sound waves behaviour and speed</li> <li>Sound and vibrations</li> <li>Pitch and loudness</li> <li>Hearing and the ear</li> <li>Light- uses and differences to sound</li> <li>Investigating reflection and refraction</li> </ul>	<p><b>Earth and Space/Universe</b></p> <ul style="list-style-type: none"> <li>The structure of the Earth</li> <li>Rock types</li> <li>Rock erosion and weathering</li> <li>The rock cycle</li> <li>The night sky</li> <li>Solar system and the planets</li> <li>Earth movement in space- rotation and orbit of planets</li> <li>Moons and</li> </ul>

<p>students will also build on numeracy and literacy skills through the science curriculum</p>	<ul style="list-style-type: none"> <li>• Particle model and particle arrangement in solids, liquids and gases</li> <li>• Changing state- melting, freezing, evaporation and boiling</li> <li>• Diffusion</li> <li>• Expansion and contraction</li> <li>• Gas pressure</li> <li>• Pure and impure substances</li> <li>• Solubility and solutions</li> <li>• Filtration, distillation and chromatography as separating techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Project work on habitats and organisms.</li> </ul> <p><b>Energy</b></p> <ul style="list-style-type: none"> <li>• Measuring energy in food and fuels</li> <li>• Energy stores and transfers</li> <li>• Energy resources- renewable and non renewable fuels</li> <li>• Energy and power stations- electricity generation</li> <li>• Conservation of energy and energy diagrams</li> </ul> <p><b>End of Term 1 assessment</b></p>	<p><b>Reproduction and Variation</b></p> <ul style="list-style-type: none"> <li>• Variation within a species- continuous and discontinuous variation</li> <li>• Adaptations</li> <li>• Animal reproduction- reproductive structures, adolescence, functional changes in the body at puberty</li> <li>• Menstruation and fertilisation</li> <li>• Foetus development</li> <li>• Reproduction in plants</li> </ul>	<p>non-metals properties and differences</p> <ul style="list-style-type: none"> <li>• Reacting metals with acids and water</li> <li>• Displacement reactions- metals in 'competition'</li> </ul> <p><b>Science week activities and enrichment</b></p> <p><b>End of term 2 assessment</b></p>	<ul style="list-style-type: none"> <li>• Colour</li> <li>• The eye and sight</li> </ul> <p><b>Speed and Gravity</b></p> <ul style="list-style-type: none"> <li>• Ideas about forces</li> <li>• Balanced and unbalanced forces</li> <li>• Investigating motion</li> <li>• Motion graphs</li> <li>• Gravity on Earth, planets and the Moon</li> <li>• Weight and mass</li> </ul>	<ul style="list-style-type: none"> <li>• satellites</li> <li>• Changing models and ideas</li> </ul> <p><b>Cells and Movement</b></p> <ul style="list-style-type: none"> <li>• Levels of organisation in living things</li> <li>• The skeleton</li> <li>• Movement with joints and muscles</li> <li>• Investigating movement</li> <li>• Observing animal and plant cells, using microscopes</li> <li>• Specialised cells</li> <li>• Movement of substances in and out of cells</li> </ul> <p><b>End of year 7 assessment</b></p>
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## Curriculum Overview for Year 8 in Science (NEW COURSE)

**Year 8 Assessment point 1:** end of topic formative assessment at end of unit, Term 1 test week 5th December

**Year 8 Assessment point 2:** end of topic formative assessment at end of unit, Term 1 test week 22nd March

**Year 8 Assessment point 3:** end of topic formative assessment at end of unit, Term 1 test week 16th July

**Date of Interim Assessment:** dates of assessment week

**Date of Masters Assessment:** date of assessment week

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
<p>Knowledge and skills which will be covered this year</p> <p>Practical and investigative work is taught within the content, students will also build on numeracy and literacy skills through the science curriculum</p>	<p><b>Forces and pressure</b></p> <ul style="list-style-type: none"> <li>• Contact forces and their effects</li> <li>• Balanced and unbalanced forces</li> <li>• Investigating stretching and tensile forces</li> <li>• Pressure</li> <li>• Using the pressure equation <math>P=F/A</math></li> <li>• Atmospheric pressure and pressure in fluids</li> <li>• Hydraulic systems</li> <li>• Turning forces</li> </ul>	<p><b>Breathing and digestion</b></p> <ul style="list-style-type: none"> <li>• Gas exchange</li> <li>• Investigating exercise and breathing rate</li> <li>• Effect of drugs and alcohol on the body</li> <li>• Impact of smoking</li> <li>• Diet and nutrition</li> <li>• Deficient diets</li> <li>• The digestive system</li> <li>• Substances involved in digestion</li> </ul>	<p><b>Reactions and Chemical Energy</b></p> <ul style="list-style-type: none"> <li>• Physical and chemical changes</li> <li>• Particle behaviour in reactions</li> <li>• Combustion reactions and burning fuels</li> <li>• Thermal decomposition</li> <li>• Limestone-reactions and uses</li> <li>• Mass in reactions</li> <li>• Reaction energy</li> <li>• Investigating energy in</li> </ul>	<p><b>Evolution and Inheritance</b></p> <ul style="list-style-type: none"> <li>• Charles Darwin and his evolution theory</li> <li>• Extinction of species and threats to biodiversity</li> <li>• Preserving biodiversity</li> <li>• Inheritance</li> <li>• DNA and genetics, DNA discovery</li> <li>• Using genetic science</li> <li>• Project-biodiversity research 'the butterflies and</li> </ul>	<p><b>Magnetism</b></p> <ul style="list-style-type: none"> <li>• Magnets and fields</li> <li>• Using magnets and fields</li> <li>• Investigating magnetism</li> <li>• Electromagnets</li> <li>• Making electromagnets</li> <li>• Electromagnets in devices</li> <li>• Motors and the motor effect-project building a motor</li> </ul>	<p>Investigative and enrichment project work based on cognitive science.</p> <p><b>End of Year 8 assessment window</b></p>

	(moments)	<p><b>Elements and the Periodic Table</b></p> <ul style="list-style-type: none"> <li>• Elements, compounds and mixtures</li> <li>• The periodic table-symbols of elements and patterns of arrangement</li> <li>• Metal groups and patterns of reactivity in the PT</li> <li>• The halogens and noble gases</li> <li>• Using chemical formula and balancing equations</li> <li>• Model of the atom (Dalton)</li> <li>• The importance of carbon</li> </ul> <p><b>End of term 1 assessment</b></p>	reactions	the bees'		
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**End of term 2 assessment**

## Curriculum Overview for Year 9 in Science NEW COURSE

**Year 9 Assessment point 1:** end of topic formative assessment at end of unit, Term 1 test week 5th December

**Year 9 Assessment point 2:** end of topic formative assessment at end of unit, Term 1 test week 22nd March

**Year 9 Assessment point 3:** end of topic formative assessment at end of unit, Term 1 test week 16th July

**Date of Formative Assessment:** dates of assessment week

**Date of Summative Assessment:** date of assessment week

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
<p>Knowledge and skills which will be covered this year</p> <p>Practical and investigative work is taught within</p>	<p><b>Practical bridging unit recovery curriculum</b></p> <ul style="list-style-type: none"> <li>Precision and accuracy</li> <li>Measuring large and small</li> <li>Timing methods</li> <li>Heating substances</li> </ul>	<p><b>Complete Y9 Energy..</b></p> <ul style="list-style-type: none"> <li>Energy and temperature</li> <li>Heat transfer mechanisms in conduction and convection</li> <li>Investigating insulation</li> <li>Infra red</li> </ul>	<p><b>Y9 Environmental chemistry</b></p> <ul style="list-style-type: none"> <li>Pollution in the environment</li> <li>Extraction of metals</li> <li>Recycling and reuse</li> <li>Aluminium- the modern metal</li> </ul>	<p><b>Y9 Biology Cells and Life</b></p> <ul style="list-style-type: none"> <li>Cell structure and function in plants and animals</li> <li>Prokaryotic and eukaryotic cells</li> <li>Measuring cells and</li> </ul>	<p><b>Cells (cont)...</b></p> <ul style="list-style-type: none"> <li>Aerobic and anaerobic respiration in humans</li> <li>Anaerobic respiration in microorganisms (yeast)</li> </ul>	<p>Preparation for key stage assessment</p> <p><b>End of term 3 assessment</b></p> <p>STEM project and enrichment</p>

<p>the content, students will also build on numeracy and literacy skills through the science curriculum</p>	<p>safely and measuring the effects</p> <ul style="list-style-type: none"> <li>• Measuring volumes</li> <li>• Measurements in reactions</li> <li>• Measuring mass in reactions</li> <li>• Classification</li> <li>• Investigation: carbonate ores</li> </ul> <p><b>Y9 Energy Considerations</b></p> <ul style="list-style-type: none"> <li>• The future of renewable energies</li> <li>• 21st century energy demands</li> <li>• Power and energy</li> <li>• Saving energy-preserving finite energy resources</li> <li>• Work done and machines-levers and pulleys</li> </ul>	<p>transfer</p> <ul style="list-style-type: none"> <li>• Reducing heat loss-explaining how methods work</li> <li>• Eco homes and future transport</li> </ul> <p><b>End of term 1 assessment</b></p>	<ul style="list-style-type: none"> <li>• Global warming and the greenhouse effect</li> <li>• The carbon cycle</li> <li>• Effects of climate change</li> <li>• Hydrogen and alternative fuels</li> <li>• Comparing fuels</li> <li>• Making and using plastics</li> <li>• Plastic problems</li> <li>• Cleaning the environment</li> <li>• Project: Clean up</li> <li>• Evolution of the atmosphere</li> </ul>	<p>transport in cells</p> <ul style="list-style-type: none"> <li>• Microscopy</li> <li>• Cell differentiation</li> <li>• Plant tissues, leaves and cell organisation</li> <li>• Photosynthesis</li> <li>• Investigating photosynthesis and substances in leaves</li> </ul> <p><b>End of term 2 assessment</b></p>	<p><b>Y9 Waves and Radiation</b></p> <ul style="list-style-type: none"> <li>• Transverse and longitudinal waves</li> <li>• Wave characteristics and behaviour</li> <li>• Amplitude, frequency and wavelength of waves</li> <li>• Calculating wave speed</li> <li>• Electromagnetic waves and their general behaviour</li> <li>• Using light: devices and lenses</li> </ul>	
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## Curriculum Overview for Year 10 in Science (LEGACY COURSE)

**Year 10 Assessment point 1:** wc 10th October unit assessments and wc 12th December termly assessment

**Year 10 Assessment point 2:** wc 27th March termly assessment

**Year 10 Assessment point 3:** term 3 assessments as per calendar

**Date of Assessment:** dates of assessment week

**Date of Mock Assessment:** date of assessment week

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
AQA GCSE	<u>Bioenergetics</u> <ul style="list-style-type: none"> <li>Photosynthesis: reaction and</li> </ul>	<u>Homeostasis</u> <ul style="list-style-type: none"> <li>Maintaining stable conditions in the</li> </ul>	<u>Atomic structure and radioactivity</u> <ul style="list-style-type: none"> <li>Models of the</li> </ul>	<u>Chemical changes and energy changes</u> <ul style="list-style-type: none"> <li>Acids, bases and</li> </ul>	<u>Ecology</u> <ul style="list-style-type: none"> <li>Competition for resources</li> </ul>	Complete Forces



<p>Combined Science 8464</p> <p>AQA GCSE Biology 8461 Chemistry 8462 Physics 8464</p> <p>Knowledge and skills which will be covered this year</p> <p>Practical and investigative work is taught within the content, students will also build on numeracy and literacy skills through the science curriculum</p>	<ul style="list-style-type: none"> <li>products, how plants use glucose</li> <li>Factors that affect the rate of photosynthesis</li> <li>Investigating photosynthesis</li> <li>Using the inverse square law</li> <li>Artificial conditions for plant growth</li> <li>Respiration in animals, metabolism and the reactions that are involved</li> <li>Anaerobic respiration in animals and plants/yeast</li> <li>Effects of exercise on the body: investigating and measuring</li> </ul> <p><u>Quantitative chemistry</u></p> <ul style="list-style-type: none"> <li>Calculating relative formula mass</li> <li>Percentage mass of an element in a compound</li> <li>The mole: using mole calculations to calculate amounts involved in reactions</li> <li>Conservation of mass in reactions</li> <li>Limiting reactants</li> <li>Concentration: calculations and</li> </ul>	<p>body, negative feedback</p> <ul style="list-style-type: none"> <li>The nervous system: how the CNS co-ordinates a response</li> <li>Synapses and reflexes</li> <li>Investigating factors affecting responses: reaction time</li> <li>The endocrine system and key glands</li> <li>Controlling blood glucose and diabetes</li> <li>Puberty, hormones and the menstrual cycle</li> <li>Hormones involved in female fertility, control of fertility</li> <li>Adrenaline and thyroxine</li> </ul> <p><u>Electricity</u></p> <ul style="list-style-type: none"> <li>Series and parallel circuits, circuit diagrams and constructing circuits.</li> <li>Calculations involving current</li> <li>Investigating resistance in circuits</li> <li>IV characteristics for resistors, diodes and</li> </ul>	<p>atom and development of this</p> <ul style="list-style-type: none"> <li>Atom and nucleus size and structure</li> <li>Radioactive decay and types of radiation, isotopes</li> <li>Using nuclear equations to show decay</li> <li>Irradiation and contamination: dangers and uses of radiation</li> <li>Half life and calculations, use of half life graphs</li> </ul> <p><u>Waves</u></p> <ul style="list-style-type: none"> <li>Wave types: transverse and longitudinal, mechanical and electromagnetic</li> <li>Investigating wave behaviour: refraction, reflection, diffraction, absorption</li> <li>The wave equation</li> <li>Electromagnetic spectrum: uses and dangers</li> </ul> <p><u>Triple science also learn:</u></p> <ul style="list-style-type: none"> <li>Half lives of different radioactive</li> </ul>	<p>neutralisation reactions</p> <ul style="list-style-type: none"> <li>Strong acids and bases: behaviour and reactions, pH</li> <li>Producing soluble and insoluble salts in reactions</li> <li>Metals and their reactions: the reactivity series</li> <li>Reduction and oxidation, extraction of metals from metal oxides</li> <li>Redox reactions</li> <li>Electrolysis and predicting products formed at electrodes</li> <li>Exothermic and endothermic reactions: how to investigate energy changes in reactions</li> <li>Reaction profile diagrams and bond energy calculations</li> </ul> <p><u>Triple science also learn:</u></p> <ul style="list-style-type: none"> <li>Titration methods and calculations</li> <li>Fuel cells and batteries</li> </ul> <p><b>Assessment preparation</b></p>	<p>enabling survival</p> <ul style="list-style-type: none"> <li>Interdependence and effects on populations</li> <li>Biotic and abiotic factors</li> <li>How adaptations allow organisms to survive</li> <li>Population cycles-links to interdependence</li> <li>Investigating distributions of organisms in habitats <b>Field trip work</b></li> <li>Water and carbon cycles</li> <li>Biodiversity: the importance of biodiversity</li> <li>Demands on environments from population increase</li> <li>Human effects on the environment: global warming, deforestation and land use</li> <li>How can we protect ecosystems and protect biodiversity?</li> </ul> <p><u>Forces</u></p> <ul style="list-style-type: none"> <li>Contact and non-contact forces, scalar and vector quantities</li> </ul>	<p>Revision strategies and prep for exams</p> <p><b>Year 10 MOCK EXAMS 3 WEEK WINDOW</b></p> <p><b>Post exam analysis and feedback</b></p> <p><b>Year 11 skills preparation</b></p>
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	<p>units</p> <p>Triple science also learn:</p> <ul style="list-style-type: none"> <li>• Percentage yield in reactions</li> <li>• Atom economy</li> <li>• Calculating concentration in mol/dm<sup>3</sup></li> <li>• Reactions involving gases: calculating using gas volumes</li> </ul>	<p>filament lamps</p> <ul style="list-style-type: none"> <li>• Components in sensing circuits</li> <li>• Curren, pd and resistance 'rules' in circuits: find the missing values</li> <li>• Domestic electricity supplies and safety</li> <li>• Power and energy calculations for appliances</li> <li>• Calculations using P,E,Q,I,V,W,t</li> <li>• National grid and transformers</li> </ul> <p>Triple science also learn:</p> <ul style="list-style-type: none"> <li>• The brain: structure and function</li> <li>• The eye: structure and function</li> <li>• Maintaining water and nitrogen balance in the body (the kidneys)</li> <li>• Static charge related to electricity</li> <li>• Electric fields</li> <li>• Monoclonal antibodies</li> <li>• Drug development and testing</li> <li>• Plant defences</li> <li>• Biotechnology- mycoprotein and insulin production</li> </ul>	<p>isotopes</p> <ul style="list-style-type: none"> <li>• Nuclear fission</li> <li>• Nuclear fusion</li> <li>• Sound waves</li> <li>• Waves for detection and exploration</li> <li>• Lenses and visible light- optics</li> <li>• IR,perfect black bodies and radiation</li> <li>• Space physics:our solar system</li> <li>• Life cycle of stars-difference between stars</li> <li>• Orbital motion</li> <li>• Natural and artificial satellites</li> <li>• Red shift and evidence to support the Big bang theory</li> </ul>		<p>in physics.</p> <ul style="list-style-type: none"> <li>• Weight, mass and gravity</li> <li>• Resultant forces: work done when a resultant force moves an object</li> <li>• Use scale diagrams to represent and calculate resultant forces</li> <li>• Resolving forces</li> <li>• Elasticity and Hooke's law</li> <li>• Mathematical relationships: elasticity and energy stored in springs</li> <li>• Motion: distance, displacement, speed and velocity</li> <li>• Acceleration: calculating accn as rate of change of velocity and from F=ma</li> <li>• Representing motion in graphical form</li> <li>• Newtons laws</li> <li>• Terminal velocity</li> <li>• Investigating how mass and force affect acceleration</li> <li>• Road safety: how stopping distances and reaction times are important</li> <li>• Momentum: calculating</li> </ul>	
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					<p>momentum and conservation of momentum</p> <p><u>Triple Science also learn:</u></p> <ul style="list-style-type: none"> <li>• Ecology- decay and decomposition</li> <li>• Impact of environmental change</li> <li>• Trophic levels, pyramids of biomass, transfer of biomass</li> <li>• Food security</li> <li>• Farming techniques and sustainable fisheries</li> <li>• Biotechnology: producing insulin and 'quorn'</li> </ul>	
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## Curriculum Overview for Year 11 in Science (LEGACY COURSE)

**Year 11 Assessment point 1:** end November mock 1 point, end of unit tests prior to this

**Year 11 Assessment point 2:** end of unit formative tests then wc 1st March

**Year 11 Assessment point 3:** end of unit tests plus practice papers end April

**Date of summative Assessments:**

**Date of Mock Assessment:**

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
<p>AQA GCSE Combined Science 8464</p> <p>AQA GCSE Biology 8461 Chemistry 8462 Physics 8464</p> <p>Knowledge and skills which will be covered this year</p>	<p><u>Ecology</u></p> <ul style="list-style-type: none"> <li>• Competition for resources enabling survival</li> <li>• Interdependence and effects on populations</li> <li>• Biotic and abiotic factors</li> <li>• How adaptations allow organisms to survive</li> <li>• Population cycles- links to interdependence</li> <li>• Investigating distributions of organisms in habitats</li> <li>• Water and carbon cycles</li> <li>• Biodiversity: the importance of biodiversity</li> <li>• Demands on environments from population increase</li> <li>• Human effects on the environment: global warming, deforestation and</li> </ul>	<p><u>Organic chem</u></p> <ul style="list-style-type: none"> <li>• Hydrocarbons: alkanes and alkenes</li> <li>• Burning hydrocarbons</li> <li>• Fractional distillation and the use of fractions obtained</li> <li>• Cracking of hydrocarbons to make useful products</li> </ul> <p><u>Chemical Analysis</u></p> <ul style="list-style-type: none"> <li>• Purity: definitions and how to tell how pure substances are</li> <li>• Formulations and examples</li> <li>• Paper chromatography and Rf value calculations</li> <li>• Tests for chlorine, oxygen, hydrogen and oxygen gases</li> </ul> <p>Triple science also learn:</p>	<p><u>Rate of Chemical change</u></p> <ul style="list-style-type: none"> <li>• Particle model and behaviour of particles in reaction mechanisms</li> <li>• Representing reaction rates in graph forms</li> <li>• Factors that affect a reaction rate</li> <li>• Methods of investigating reaction rates e.g. disappearing cross, collecting volume of gas per min</li> <li>• Analysing results from reaction rates experiments</li> <li>• Reversible reactions and equilibrium conditions</li> <li>• Le Chatelier's principle: reversible reactions and how changes are counteracted</li> </ul>	<p><u>Inheritance, Variation and Evolution</u></p> <ul style="list-style-type: none"> <li>• DNA, chromosomes and genes</li> <li>• Sexual and asexual reproduction in organisms</li> <li>• Meiosis : producing gametes</li> <li>• Important chromosomes: male and female, genetic diagrams to show possible gamete combinations (probability)</li> <li>• Dominant and recessive alleles and genetic disorders</li> <li>• Embryo screening and social and moral implications</li> <li>• Variations within species: mutations</li> <li>• Evolution theories, speciation and extinction</li> </ul>	<p><b>Revision, exam technique and question practice.</b></p> <p><b>Exam preparation</b></p>	

	<ul style="list-style-type: none"> <li>land use</li> <li>How can we protect ecosystems and protect biodiversity?</li> </ul> <p><u>Forces</u></p> <ul style="list-style-type: none"> <li>Contact and non-contact forces, scalar and vector quantities in physics.</li> <li>Weight, mass and gravity</li> <li>Resultant forces: work done when a resultant force moves an object</li> <li>Use scale diagrams to represent and calculate resultant forces</li> <li>Resolving forces</li> <li>Elasticity and Hooke's law</li> <li>Mathematical relationships: elasticity and energy stored in springs</li> <li>Motion: distance, displacement, speed and velocity</li> <li>Acceleration: calculating accn as rate of change of velocity and from <math>F=ma</math></li> <li>Representing motion in</li> </ul>	<ul style="list-style-type: none"> <li>Reactions of alkenes and alcohols</li> <li>Carboxylic acids, alcohols and functional groups</li> <li>Condensation polymerisation reactions</li> <li>Synthetic and naturally occurring polymers (DNA)</li> <li>Identifying ions by chemical and spectroscopic means</li> </ul> <p><b>All students- Mocks 1</b></p>	<p>Chemistry of the atmosphere</p> <ul style="list-style-type: none"> <li>Evolution of the atmosphere</li> <li>Greenhouse gases and climate change: implications for the future</li> <li>Carbon footprints: how can we reduce this?</li> <li>Air pollution: particulates, other gases and acid rain</li> <li>Natural and finite resources</li> <li>Reuse and recycling of materials and the links to energy issues</li> <li>Life cycle assessments to show environmental costs of products</li> <li>Potable water and how this is produced in different places</li> <li>Waste water treatment</li> </ul> <p>Triple also learn:</p> <ul style="list-style-type: none"> <li>Corrosion of metals</li> <li>Alloys and their uses</li> <li>Ceramics, polymers and</li> </ul>	<ul style="list-style-type: none"> <li>Selective breeding</li> <li>Genetic engineering and GM crops</li> <li>Fossils and evidence for evolution theories</li> <li>Antibiotic resistant bacteria</li> <li>Classification systems and evolutionary relationships</li> </ul> <p>Triple science also learn:</p> <ul style="list-style-type: none"> <li>DNA structure</li> <li>Cloning</li> <li>Space physics:our solar system</li> <li>Life cycle of stars-difference between stars</li> <li>Orbital motion</li> <li>Natural and artificial satellites</li> <li>Red shift and evidence to support the Big bang theory</li> </ul>		
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	<p>graphical form</p> <ul style="list-style-type: none"> <li>• Newtons laws</li> <li>• Terminal velocity</li> <li>• Investigating how mass and force affect acceleration</li> <li>• Road safety: how stopping distances and reaction times are important</li> <li>• Momentum: calculating momentum and conservation of momentum</li> </ul> <p><u>Triple Science also learn:</u></p> <ul style="list-style-type: none"> <li>• Ecology- decay and decomposition</li> <li>• Impact of environmental change</li> <li>• Trophic levels, pyramids of biomass, transfer of biomass</li> <li>• Food security</li> <li>• Farming techniques and sustainable fisheries</li> <li>• Biotechnology: producing insulin and 'quorn'</li> </ul>		<p>composites.</p> <ul style="list-style-type: none"> <li>• Ammonia production</li> <li>• Using ammonia in fertiliser production</li> </ul>			
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