

Year 10 Curriculum Implementation: Science (Chemistry)			
	Autumn	Spring	Summer
Knowledge & Skills	Atomic structure & periodic table <ul style="list-style-type: none"> Structure & history of the atom Elements & compounds Electron configuration Writing balanced symbol equations Calculating relative formula mass Isotopes Separation techniques The periodic table and history of development Groups and their properties within periodic table Transition metals (SS only) 	Bonding <ul style="list-style-type: none"> Formation of ions Ionic bonding Properties of ionic compounds Covalent bonding Properties of covalent molecules Allotropes of carbon Metallic bonding & alloys Nanoparticles (SS only) Quantitative Chemistry <ul style="list-style-type: none"> Calculating % by mass Conservation of mass Moles Reacting mass calculations Using masses to prove balanced equations Limiting reactants % yield & atom economy (SS only) Volume of gases (SS only) Calculating concentrations 	Chemical Changes <ul style="list-style-type: none"> Reactivity series Displacement reactions REDOX calculations Reduction with carbon Electrolysis & electrolysis required practical Acids, alkalis & indicators Neutralisation Making salts required practical Naming salts Strength of acids Concentration of acids Titration required practical (SS only) Titration calculations (SS only)
Links to prior learning	Year 7 <ul style="list-style-type: none"> simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography Year 8 <ul style="list-style-type: none"> a simple (Dalton) atomic model differences between atoms, elements and compounds chemical symbols and formulae for elements and compounds conservation of mass changes of state and chemical reactions 		Year 8 and 9 <ul style="list-style-type: none"> chemical reactions as the rearrangement of atoms representing chemical reactions using formulae and using equations combustion, thermal decomposition, oxidation and displacement reactions Year 7 <ul style="list-style-type: none"> defining acids and alkalis in terms of neutralisation reactions the pH scale for measuring acidity/alkalinity; and indicators reactions of acids with metals to produce a salt plus hydrogen reactions of acids with alkalis to produce a salt plus water what catalysts do
Assessment	<ul style="list-style-type: none"> Atomic structure assessment Separating mixtures formative assessment Periodic table & atomic structure assessment 	<ul style="list-style-type: none"> Quantitative calculations formative assessment Quantitative calculations assessment Year 10 mock exam 	<ul style="list-style-type: none"> Electrolysis formative assessment Making salts formative assessment Chemical changes assessment
Home learning	<ul style="list-style-type: none"> Educake GCSEpod Past paper exam questions Reading comprehensions 	<ul style="list-style-type: none"> Educake GCSEpod Past paper exam questions Reading comprehensions 	<ul style="list-style-type: none"> Educake GCSEpod Past paper exam questions Reading comprehensions
Cultural Capital and extra-curricular opportunities	<ul style="list-style-type: none"> Runshaw more able gifted and talented event Science Live Manchester 	<ul style="list-style-type: none"> Year 9/10 trip to Geneva or Iceland 	
Literacy	<ul style="list-style-type: none"> Key words & definitions Etymology of keywords Electron reading comprehension Humphry Davy reading comprehension 	<ul style="list-style-type: none"> Key words & definitions Etymology of keywords 	<ul style="list-style-type: none"> Key words & definitions Etymology of keywords
Numeracy	<ul style="list-style-type: none"> Converting units Calculating relative formula mass Sub atomic particle calculations Calculating relative abundance of isotopes Calculating Rf values 	<ul style="list-style-type: none"> Calculating % by mass Balancing equations Mole calculations Reacting mass calculations % yield calculations Determining atom economy Calculating concentration Calculating volume of gases 	<ul style="list-style-type: none"> Writing REDOX equations Use of pH scale Graphs of pH Acid concentration calculations Titration calculations
Careers Information, Education, Advice and Guidance (CEIAG)	<ul style="list-style-type: none"> Medical Practitioner Chemical Process Operators Chemical Engineers 	<ul style="list-style-type: none"> Pharmacist 	<ul style="list-style-type: none"> Fire Service Officers
Spirituality	<ul style="list-style-type: none"> Respect and acknowledgement of the work of Scientists in the past Being able to work together as part of a team 	<ul style="list-style-type: none"> Awareness of over consumption and the over-use of finite resources Stewardship of the Earth 	<ul style="list-style-type: none"> Respect and acknowledgement of the work of Scientists in the past Being able to work together as part of a team

How can parents support the curriculum?	<ul style="list-style-type: none">Encourage the use of Educake and Cognito (if purchased)	<ul style="list-style-type: none">Encourage the use of Educake and Cognito (if purchased)	<ul style="list-style-type: none">Encourage the use of Educake and Cognito (if purchased)
---	---	---	---