



	Sequence		
TOPIC (S) Practical Techniques	1. Calibration of volumetric equipment 2. Titration 3. Sources of error 4. pH	5. Making a standard solution 6. Colorimetry 7. Cooling Curves 8. Cooling curve analysis	9. Comparisons of thermometers 10. Chromatography- thin layer chromatography 11. Paper chromatography
Knowledge & Skills development	<ul style="list-style-type: none"> • Knowledge of density, temperature dependence, units of density, mass and volume • Calibration of pipettes, balances and pH meters • Carrying out a range of titrations • Evaluating sources of error • Making a standard solution • Colorimetry and determining the concentration of a solution • Using calorimetry to plot and analyse cooling curves • Comparisons of thermometers 	<ul style="list-style-type: none"> • Extraction of pigment from plants using different solvents • Thin layer chromatography of plant pigments • Paper chromatography of plant pigments • Paper chromatography of amino acids • Literacy- writing up all practical work for submission to exam board 	
Assessment / Feedback Opportunities	Teacher observation and questioning during practical tasks	Teacher marking of assignment tasks	Live marking during lessons
Cultural Capital	<ul style="list-style-type: none"> • • 		
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<ul style="list-style-type: none"> • Listening to others during presentations • Working in groups during practical work or research tasks 		
Reading opportunities	<ul style="list-style-type: none"> • Recommended Read: Chemistry for Dummies (John T Moore) • Recommended Read: Calculations in AS/A Level Chemistry (Jim Clark) • Recommended Read: Periodic Table (DK Eyewitness) • Recommended Read: The Atom: The building block of everything (Jack Challoner) • Recommended Read: The Elements: A Visual Exploration of Every Atom in the Universe (Nick Mann) • Recommended Read: All About Chemistry (Big Questions) (Robert Winston) 		
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest, Absolute, Uncertainty, Error		

Digital Literacy	The use of excel to plot graphs and analyse data Office365 applications including SharePoint
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators Calculating density, processing results from titrations, using graphs to determine concentration of a solution, collecting and recording data using accepted conventions. Literacy- extended writing of investigations and self evaluation of progress made as evidence for coursework.
Careers	Chemist, Pharmacist, Chemical Engineer, Materials Scientist, Lab Technician