C3 Chemical quantities & calculations

Paper 1 AQA

Blue Pathway								
Purple Pathway								
Orange Pathway								
	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
AO1 Remember	Remember a range of basic facts and put them into structured sentences in a topic.	Remember a wide range of basic facts.	Use appropriate terminology in answers (key words and phrases)	**Explain why mass is conserved during changes of state and chemical reactions**	**Explain meaning of subscripts and multipliers in formulae**	**Calculate masses of reactants and products**	**Explain observed changes in mass**	**Explain how concentration relates to mass and volume**
		Use some key words and phrases for any topic studied.				**Calculate mass of solute from concentration and volume**	**Balance an equation given masses of reactants and products**	**Calculate theoretical mass from mass of reactant**
				Relate mass, volume and concentration	**Describe moles**	**Explain moles of gases**	**Use RFM to calculate numbers of moles**	**Explain particular reaction pathways**
AO2 Application	**Use word equations**	**Calculate RFM**	**Estimate uncertainty in a set of results**	**Calculate mass of a solute in a given volume**	**Calculate mass of substances in balanced symbol equations**	**Calculate volume of a gas**	**Understand the application of the measurement: moles**	**Calculate volumes of gas from balanced equations and given volume of reactant**
	Consistently use equations in calculations.	**Use word and symbol equations**				**Calculate atom economy**		
		Consistently use and sometimes rearrange equations in calculations.	Rearrange equations in calculations.	**Use state symbols in equations (s), (l), (g) & (aq)**	**Convert masses in g to amount in moles**	**Calculate theoretical amount of products from amount of reactants**	Consistently rearrange equations in complex calculations	**Calculate percentage yield**
AO3 Analyse and Evaluate	Recognise anomalous results and spot some causes of error in experimental procedures.	Consistently draw conclusions consistent with the available evidence.	Identify some causes of error and uncertainty in data or experimental procedures.	Evaluate the reliability of methods in detail.	**Use the range about a mean to evaluate degree of uncertainty**	Identify causes of error and uncertainty in data or experimental procedures.	Suggest detailed improvement to methods where reliability may be a concern	Critically analyse qualitative and quantitative data to draw logical, well-evidenced conclusions
AO3 Experimental Procedures	Identify variables in an investigation	Explain the importance of sampling technique and control variables	Correctly use an appropriate number of decimal places	Accurately make and record observations and measurements	**Take readings during titration and describe the method used**	**Calculate concentration in titrations**	Explain accuracy, precision, resolution and reliability	Use all the correct scientific language throughout.