C4 Chemical changes

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	**Describe key reactions: neutralisation, combustion, thermal decomposition oxidation and displacement**	Remember a wide range of basic facts.	**Explain how to balance equations including neutralisation**	**Explain how to name a salt and the positive ion**	**Identify metal oxides as bases/alkalis**	**Represent chemical reactions using balanced symbol equations**	**Use balanced equations to describe chemical reactions.**	**Write half equations and ionic equations**
		Use some key words and phrases for any topic studied.	**Define oxidation and reduction and give examples**	**Discuss and suggest methods that may be used to extract metals more reactive than carbon**	**Describe electrolysis**	**Explain extraction methods depending on reactivity**	**Explain redox reactions**	**Predict products of electrolysis of aqueous solutions containing a single ionic compound**
	Describe simple displacement reactions when given the reactivity series		**Explain conditions and uses of key reactions and reactions of metals with acids**		**Describe neutralisation**	**Identify reactions in electrolysis. Explain process involved in electrolysis of bauxite.**	**Describe neutrality and relative acidity (strong & weak)**	
AO2 Application	**Use word equations**	**Use word and symbol equations**	**Suggest separation and purification techniques**	**Use results of displacement reactions to deduce a reactivity series**	**Use reactivity series to predict displacement**	**Predict products from given reactants**	Apply knowledge effectively in a wide range of contexts.	**Derive a formula for a salt from its ions**
	Sometimes use data to support evidence.					**Use word equations to describe reactions**		
		Use theories to make simple explanations of events.	**Explain how metals can be obtained from metal oxides**	**Use state symbols in equations (s), (l), (g) & (aq)**	**Explain reactivity using creation of positive ions**	Use theories to make detailed explanations of events.	Use theories to make detailed explanations of events.	**Calculate chemical quantities in titration**
AO3 Analyse and Evaluate	Evaluate basic information to develop simple arguments and explanations.	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	Suggest further questions that may arise from results of investigations, data analysis and evaluation	**Interpret/evaluate specific extraction methods**	**Interpret/evaluate information about specific metal extraction**	Critically evaluate and refine methodologies, and judge the validity of scientific conclusions
						Interpret data for relative reactivity of metals		
AO3 Experimental Procedures	Identify variables in an investigation	**Use electrolysis**	**Use pH scale accurately**	**Explain apparatus and principles of electrolysis**	**Describe how to carry out titrations to find reacting volumes**	Safely carry out practical investigations by creating a full risk assessment	**Use experiments to deduce an order of reactivity**	Plan, justify, and carry out a safe, reliable and valid investigation to test a hypothesis
		Explain the importance of sampling technique and control variables	**Describe how to make samples of salt**	Plan an experiment and explain the importance of repeat readings		**Calculate concentration in titrations**	**Investigate pH changes in neutralisation**	