C5 Energy 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	**Draw simple reaction profiles** Remember a range of basic facts and put them into structured sentences in a topic.	**Recognise energy transfers to a surrounding** **Explain voltage production by electrolyte**	**Draw reaction profiles and use them to categorise reactions (endo/exo)** Use appropriate terminology in answers (key words and phrases)	**Explain how collisions are random and must be successful in order for a reaction to occur** **Describe cells, batteries and fuel cells**	**Recognise energy transfer from surroundings** **Explain endo/exothermic reactions if temp changes**	**Explain activation energy** **Recognise where energy transfers come from** **Explain energy conversions in a fuel cell**	**Explain energy conservation in a chemical reaction** **Describe energy changes in reactions with links to bonds** **Explain redox reactions in terms of ions**	Recall all key areas of Science **Write half equations for electrode reactions in a fuel cell**
AO2 Application	**Use word equations** Sometimes use data to support evidence.	**Use word and symbol equations** Use theories to make simple explanations of events.	Interpret data and use it to support evidence.	**Use state symbols in equations (s), (l), (g) & (aq)** **Calculate energy changes from reaction profiles**	Use theories to make detailed explanations of events. Interpret data and use it to support evidence.	**Calculate energy changes in a reaction using energy level profiles** Always make effective use of data to support evidence.	Apply knowledge effectively in a wide range of contexts. Use appropriate sig figs	**Calculate energy transferred in a reaction using bond energies**
AO3 Analyse and Evaluate	Recognise anomalous results and spot some causes of error in experimental procedures.	Write reasoned explanations of a conclusion based on the experimental data	Evaluate information to develop arguments and explanations.	Evaluate the reliability of methods in detail. **Evaluate use of cells**	**Explain and evaluate uses and applications of endo/exo-thermic reactions**	Draw detailed, evidence-based conclusions.	Suggest improvements to methods **Evaluate use of hydrogen fuel cells**	Critically evaluate and refine methodologies, and judge the validity of scientific conclusions
AO3 Experimental Procedures	Identify variables in an investigation	Explain the importance of technique and control variables Accurately make and record observations and measurements	**Investigate variables affecting temperature change in reacting solutions**	Plan an experiment and explain the importance of repeat readings	**Explain how variables chosen affect temperature change**	Plan valid and reliable experimental methods to test a hypothesis.	**Summarise conclusions of investigations into range of reactions** Justify the choice of methods and apparatus	**Develop hypotheses when investigating temperature changes in reactions**