CC14 Rates of Reactions

Topic Progression Checklist

I know this → colour green	I'm not sure → colour yellow	I don't know this → colour red

Subtopics and Learning Objectives	Start	End
CC14a Rates of Reactions		
Describe different changes that can occur as a reaction proceeds.		
Suggest different experimental methods to investigate rates of reaction (e.g. measurements of mass of reactants against time, volume of gas released against time, concentration of reactant or product against time).		
Use graphs of changes (in mass, volume or concentration of reactant or product) against time, to interpret what is happening during reactions.		
CC14b Factors Affecting Reactions Rates		
Explain what has to happen for reactions to take place.		
Explain why changes in the energy of particles affect rates of reaction.		
Explain why changes in the frequency of collisions between particles affect the rate of reaction.		
Explain why changes in temperature, concentration, surface area and pressure affect the rate of reaction (surface area for solids, pressure for gases only).		
Describe ways of speeding up or slowing down chemical reactions.		
CC14c Catalysts and Activation Energy		
Describe what a catalyst does.		
Explain how catalysts are useful.		
Explain what the activation energy of a reaction is.		
Explain how catalysts speed up chemical reactions.		
Describe what enzymes are.		
Name one or more examples of enzymes.		

CC15 Heat Energy Changes in Chemical Reactions

Topic Progression Checklist

I know this → colour green	I'm not sure → colour yellow	I don't know this → colour red

Subtopics and Learning Objectives	Start	End
CC15a Exothermic and Endothermic Reactions		
Recall some examples of exothermic and endothermic changes.		
Describe how heat changes in solution may be determined.		
Describe the differences between exothermic and endothermic changes.		
CC15b Energy Changes in Reactions		
Describe exothermic and endothermic reactions in terms of energy changes when bonds are broken and formed.		
H Use bond energies to calculate energy changes in reactions.		
Explain the meaning of activation energy.		
Draw and label reaction profiles.		