

Topic	Student Checklist	R	A	G
5.6.1 Rate of reaction	Calculate the rate of a chemical reaction over time, using either the quantity of reactant used or the quantity of product formed, measured in g/s, cm <sup>3</sup> /s or mol/s			
	Draw and interpret graphs showing the quantity of product formed or reactant used up against time and use the tangent to the graph as a measure of the rate of reaction			
	<b>HT ONLY: Calculate the gradient of a tangent to the curve on the graph of the quantity of product formed or reactant used against time and use this as a measure of the rate of reaction</b>			
	Describe how different factors affect the rate of a chemical reaction, including the concentration, pressure, surface area, temperature and presence of catalysts			
	<i><b>Required practical 11:</b> investigate how changes in concentration affect the rates of reactions by a method involving measuring the volume of a gas produced, change in colour or turbidity</i>			
	Use collision theory to explain changes in the rate of reaction, including discussing activation energy			
	Describe the role of a catalyst in a chemical reaction and state that enzymes are catalysts in biological systems			
	Draw and interpret reaction profiles for catalysed reactions			
5.6.2 Reversible reactions and dynamic equilibrium	Explain what a reversible reaction is, including how the direction can be changed and represent it using symbols: $A + B \rightleftharpoons C + D$			
	Explain that, for reversible reactions, if a reaction is endothermic in one direction, it is exothermic in the other direction			
	Describe the State of dynamic equilibrium of a reaction as the point when the forward and reverse reactions occur at exactly the same rate			
	<b>HT ONLY: Explain that the position of equilibrium depends on the conditions of the reaction and the equilibrium will change to counteract any changes to conditions</b>			
	<b>HT ONLY: Explain and predict the effect of a change in concentration of reactants or products, temperature, or pressure of gases on the equilibrium position of a reaction</b>			