The rate and extent of chemical change

Content	RAG
Be able to calculate the rate of a chemical reaction using the equations mean rate of reaction = quantity of reactant used/ time taken mean rate of reaction = quantity of product formed/ time taken	
Be able to draw, and interpret, graphs showing the quantity of product formed or quantity of reactant used up against time	
Be able to draw tangents to the curves on these graphs and use the slope of the tangent as a measure of the rate of reaction calculate the gradient of a tangent to the curve on these graphs as a measure of rate of reaction at a specific time. **(HT only)**	
Describe and explain the factors that can affect rates of reaction using particle theory.	
Be able to identify catalysts in reactions from their effect on the rate of reaction and because they are not included in the chemical equation for the reaction. Students should be able to explain catalytic action in terms of activation energy.	
Be able to represent activation energy using an energy level diagram.	
Know that In some chemical reactions, the products of the reaction can react to produce the original reactants. Such reactions are called reversible reactions and are represented: A + B C + D The direction of reversible reactions can be changed by changing the conditions.	
Know that If a reversible reaction is exothermic in one direction, it is endothermic in the opposite direction. The same amount of energy is transferred in each case.	
Be able to state that when a reversible reaction occurs in apparatus which prevents the escape of reactants and products, equilibrium is reached when the forward and reverse reactions occur at exactly the same rate. **(HT only)**	
Be able to interpret appropriate given data to predict the effect of a change in concentration of a reactant or product on given reactions at equilibrium. . **(HT only)**	
Be able to interpret appropriate given data to predict the effect of a change in temperature on given reactions at equilibrium. . **(HT only)**	
Be able to interpret appropriate given data to predict the effect of pressure changes on given reactions at equilibrium. **(HT only)**	