AQA GCSE Chemistry
Student Checklist

C8 Rates and equilibrium

Name ..... Class ..... Date .....

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
8.1 Rate of reaction	I can recall a definition for rate of reaction.	☐	I can explain how there can be different units for measuring rate of reaction.	☐	I can plot and use a graph to calculate the gradient to measure the initial rate of reaction.	☐
	I can safely describe and follow a method to monitor rate of reaction.	☐	I can calculate the mean rate of reaction.	☐	I can justify a chosen method for a given reaction to monitor the rate of reaction.	☐
	I can state the units for rate of reaction.	☐	I can calculate the rate of reaction at a specific time.	☐	I can explain why there is more than one unit for rate of reaction.	☐
C8.2 Collision theory and surface area	I can describe how surface area of a solid can be increased.	☐	I can describe how changing the surface area changes the rate of reaction.	☐	I can use collision theory to explain in detail how increasing surface area increases the rate of reaction.	☐
	I can state that chemical reactions can only occur when a collision occurs with enough energy.	☐	I can describe what the activation energy of a reaction is.	☐	I can use a graph to calculate the rate of reaction at specific times in a chemical reaction.	☐
	I can list the factors that can affect the rate of a chemical reaction.	☐	I can calculate the surface area to volume ratio.	☐	I can explain why many collisions do not lead to a chemical reaction.	☐
C8.3 The effect of temperature	I can describe how temperature affects the rate of reaction.	☐	I can use collision theory to explain how changing temperature alters the rate of reaction.	☐	I can use a graph to calculate the rate of reaction at specific times in a chemical reaction.	☐
	I can safely an experiment on how temperature affects the rate of a reaction.	☐	I can calculate mean rates of reaction.	☐	I can calculate (1/t) and plot a graph with a more meaningful line of best fit.	☐

AQA GCSE Chemistry
Student Checklist

C8 Rates and equilibrium

Name ..... Class ..... Date .....

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C8.4 The effect of concentration or pressure	I can describe how changing concentration affects the rate of reaction.	☐	I can use collision theory to explain how changing concentration or pressure alters the rate of reaction.	☐	I can interpret a rate of reaction graph, including calculating the rate of reaction at specific times in a chemical reaction.	☐
	I can describe how changing pressure affects the rate of gas phase reactions.	☐	I can calculate mean rates of reaction.	☐	I can explain why changing pressure has no effect on the rate of reaction for some reactions.	☐
			I can explain how to change gas pressure.	☐	I can justify quantitative predictions and evaluate in detail their investigation into the effect of concentration on rate of reaction.	☐
C8.5 The effect of catalysts	I can define a catalyst.	☐	I can use collision theory to explain how adding a catalyst alters the rate of reaction.	☐	I can use a reaction profile diagram to explain in detail the effect of adding a catalyst.	☐
	I can describe how adding a catalyst affects the rate of reaction.	☐	I can explain, with an example, the industrial use of a catalyst.	☐	I can justify the use of catalysts in industry and in household products.	☐
	I can describe and carry out a method to safely investigate which catalyst is best for a reaction.	☐	I can calculate the mean rate of reaction.	☐	I can explain what an enzyme is and how it works.	☐
C8.6 Reversible reactions	I can define a reversible reaction.	☐	I can explain, using a familiar reaction, how a reaction can be reversible.	☐	I can describe an unfamiliar reversible reaction, using a balanced symbol equation with state symbols.	☐
	I can write a word equation for a familiar reversible reaction.	☐	I can describe a familiar reversible reaction using a balanced symbol equation.	☐	I can justify the use of reversible reactions in the lab and items available in the home.	☐
	I can state an example of a reversible reaction.	☐	I can predict the observations of a familiar reversible reaction when the conditions are changed.	☐	I can justify the classification of a reaction as reversible.	☐

AQA GCSE Chemistry
Student Checklist

C8 Rates and equilibrium

Name ..... Class ..... Date .....

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C8.7 Energy and reversible reactions	I can state whether a reversible reaction is exothermic or endothermic in the reverse direction if the forward direction is stated.	☐	I can explain why the energy change in a reversible reaction is exothermic in one direction and endothermic in the reverse direction.	☐	I can explain in detail the energy changes in an equilibrium system.	☐
	I can write the word equation for the reversible reaction of dehydration/hydration of copper	☐	I can generate balanced symbol equations for reversible reactions from information provided.	☐	I can suggest and explain a simple laboratory test which could be completed using a reversible reaction.	☐
			I can make predictive observations of familiar reversible reactions when information is supplied.	☐	I can make predictive observations of unfamiliar reversible reactions when information is supplied.	☐
C8.8 Dynamic equilibrium	I can define a dynamic equilibrium.	☐	I can describe how to achieve dynamic equilibrium.	☐	I can explain dynamic equilibrium.	☐
	I can describe a closed system.	☐	I can describe how the rate of the forward reaction compares to the rate of the backward reaction in dynamic equilibrium.	☐	I can explain why the concentration of chemicals in a dynamic equilibrium remains constant.	☐
			I can describe Le Chatelier's Principle.	☐	I can predict the effect on the rate forward and reverse reactions by applying the Le Chatelier's Principle when the conditions of a dynamic equilibrium are changed.	☐
C8.9 Altering conditions			I can explain how changing conditions for a system at dynamic equilibrium affects the rate of the forward and reverse	☐	I can explain why changing pressure has no effect on some systems.	☐
			I can predict the effect on yield of changing temperature, concentration, or pressure in a given equilibrium system.	☐	I can justify, in detail, the compromise conditions chosen in given industrial processes.	☐