

Prior Learning				
Lesson Number	AQA Spec	Title	Content	Assessment/ Homework
All materials are made of particles and these are arranged in a variety of ways (KS3 ref?) Particles collide and interact with each other and can result in different arrangements when new materials are made (KS3 ref?)				
1	4.6.1.1	Measuring rates	<ul style="list-style-type: none"> Measure the volume of gas given off during a reaction. Use the results to measure the reaction rate. Explore how the rate changes during the reaction. 	Construction of a progress curve using experimental data Feedback: self assessment in class
2	4.6.1.3	Collision theory	<ul style="list-style-type: none"> Find out about the collision theory. Use collision theory to make predictions about reaction rates. Relate activation energies to collision theory. 	Teams 25 mark quiz based on particles and collision theory pre-learning Feedback: self marking quiz
3	4.6.1.2	Factors affecting rates-Surface area	<ul style="list-style-type: none"> Investigate the effect of breaking up a solid reactant into smaller pieces. Explain how pressure affects rate of reaction 	
4	4.6.1.2	Factors affecting rates-Temperature This may require 2 lessons)	<ul style="list-style-type: none"> Measure the time taken to produce a specific amount of product. See how a reactant's temperature or concentration can affect this time. 	Worksheet on the explanation of changes in rate using collision theory Feedback: self assessment in class
5	4.6.1.1	Calculating rates (This may require 2 lessons)	<ul style="list-style-type: none"> Find out how to calculate rates of reaction. Use graphs to compare reaction rates. Use tangents to measure rates that change. 	Mini exam pack of past paper questions Feedback: teacher assessed (and whole class feedback after marking)
6	4.3.2.4 (higher only)	Key concept: Limiting reactants and molar masses	<ul style="list-style-type: none"> Recognise when one reactant is in excess. Consider how this affects the amount of product made. Explore ways of increasing the amount of product. 	

7	4.6.1.2	Required practical: Investigate how changes in concentration affect the rates of reactions by a method involving the production of a gas and a method involving a colour change	<ul style="list-style-type: none"> • Devise a hypothesis. • Devise an investigation to test a hypothesis. • Decide whether the evidence supports a hypothesis. 	6 mark question focusing on planning an experiment Feedback: Peer assessed in class with markscheme
8	4.6.1.4	Catalysts	<ul style="list-style-type: none"> • Investigate catalysts. • Find out how catalysts work. • Learn how they affect activation energy. 	
<p>Endpoint:</p> <ul style="list-style-type: none"> • Use experimental data in different formats to describe what is happening to rate over time and when different variables are changed • Use the idea of particles and collisions to explain these changes in rate • Have an experience of two required practicals and can plan how to collect data and analyse it 				End of unit test based on exam questions Feedback: teacher assessed and target setting on end of chapter review sheet
Where we will use these ideas again	B3 - enzyme activity and changes with temperature C6b – equilibria			