

Chemistry – The rate and extent of chemical change –Checklist

4.6.1 Rate of reaction	Taught	Practiced	Mastered
<p>Use graphical data to explain each part of the graph ie:</p> <ul style="list-style-type: none"> • initially rate is fast • slows down • reaction completes. <p>Extended writing: write instructions to another student how to calculate the mean rate of reaction.</p> <p>Explain what is meant by the units:</p> <ul style="list-style-type: none"> • g/s • cm³/s • mol/s. 			
<p>Extended writing: explain the effect on the rate of reaction of the following factors:</p> <ul style="list-style-type: none"> • concentration • pressure • surface area • temperature • catalyst. <p>Use graphs of data obtained from concentration reactions to explain what occurs as the reaction proceeds.</p>			
<p>Describe collision theory.</p> <p>Use collision theory to explain the change in rate of reaction in terms of particle behaviour for:</p> <ul style="list-style-type: none"> • concentration • pressure • surface area • temperature • catalyst. 			
<p>Define the term activation energy.</p> <p>Identify advantages of using catalysts in industrial reactions eg reducing costs.</p> <p>Explain the effect of using a catalyst on the activation energy.</p>			

4.6.2 Reversible reactions and dynamic equilibrium	Taught	Practiced	Mastered
<p>Explain what is meant by a reversible reaction.</p> <p>Explain the difference between: \rightleftharpoons and \rightarrow reactions.</p>			
<p>Recall definition of:</p> <ul style="list-style-type: none"> • exothermic • endothermic. <p>Describe the effects of temperature on the reversible reaction.</p>			
<p>Explain the term equilibrium and given suitable examples of when it can occur.</p>			
<p>Describe Le Chatelier's principle.</p> <p>Explain the effects on equilibrium of changing conditions using suitable examples.</p> <p>Research the work of Le Chatelier or the life of Fritz Haber. Highlight the moral ambiguity of Haber's work.</p>			
<p>Use data to predict the effect of concentration on equilibrium. Justify answers.</p>			
<p>Use data to predict the effect of temperature on equilibrium. Justify answers.</p>			
<p>Use data to predict the effect of pressure on equilibrium. Justify answers.</p>			