

Unit Overview – The rate and extent of chemical change

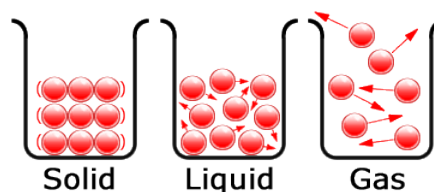
Target grade for test:.....

You will learn about:

- Rate of reaction and the collision theory.
- Reversible reactions and energy changes.

You will be able to:

- Calculate rate of reactions.



<table border="1"> <tr> <td colspan="2">Key learning points</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Calculating rate of reaction</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Factors which affect rate of reaction</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">RP Changes in concentration</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Collision theory</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Catalysts</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Reversible reactions and energy changes</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Equilibrium</td> <td></td> <td></td> <td></td> </tr> </table>					Key learning points					Calculating rate of reaction					Factors which affect rate of reaction					RP Changes in concentration					Collision theory					Catalysts					Reversible reactions and energy changes					Equilibrium					<p style="text-align: center;">Key Words</p> <p>activation energy catalyst collision frequency concentration endothermic reaction equilibrium exothermic reaction gradient Haber process Le Châtelier's principle product random rate of reaction reactants reversible catalyst concentration temperature surface area</p>	
Key learning points																																														
Calculating rate of reaction																																														
Factors which affect rate of reaction																																														
RP Changes in concentration																																														
Collision theory																																														
Catalysts																																														
Reversible reactions and energy changes																																														
Equilibrium																																														
<p>Links to other subjects: SMSC: Consider the moral ambiguity of the work of some scientists, for example Fritz Haber.</p> <p>Literacy: Write instructions on how to calculate the mean rate of reaction, explain what is meant by the units g/s, cm³/s, mol/s, explain the effect of different factors on rate of reaction, describe collision theory, explain changes in the rate of reaction using collision theory, define the term activation energy and explain the effect of using a catalyst, identify advantages of using catalysts, explain what is meant by a reversible reaction, define exothermic and endothermic reactions, describe the effects of temperature on reversible reactions, explain the term equilibrium, describe Le Chatelier's principle, explain the effects on equilibrium of changing conditions, research the work of Le Chatelier, justify your predictions.</p> <p>Numeracy: Use graphical data to explain parts of a graph of the rate of reaction, use graphs to explain what occurs as a reaction proceeds, use data to predict the effect of concentration, temperature and pressure on equilibrium.</p>																																														
Research	Note-making	Group work & discussion	Memorisation	Precision & accuracy	Independence	Reflection																																								