High Tunstall College of Science Curriculum Intent

Subject: Chemistry Year: 11

<u>Thread 4 — The rate and extent of chemical</u> <u>change</u>



	Chemistry Thread 4—The rate and extent of chemical change		Progress		
Торіс	Key ideas	R	Α	G	
The rate and extent of chemical change	I can use ideas of collision theory to explain how factors affect the rate of a chemical reaction				
	I can use results from practical work and graphical representations to calculate the rate of a chemical reaction, describing how and why this changes as a reaction progresses				
	I can define the term reversible reaction and give examples of these				
	I can define what is meant by the term 'dynamic equilibrium'				
	I can explain how pressure, concentration and temperature can affect the position of equilibrium in a reaction (HT)				
	I can apply understanding of equilibrium to unfamiliar contexts (HT)				
	I can explain the Haber process and the conditions that are used to ensure maximum profit (compromise conditions)				
	I can explain how NPK fertilisers are used				

Lesson	Learning Focus	Assessment	Key Words
1	What factors affect the rate of reaction?	Practice questions	Collision theory, activa- tion energy
2	How can we measure rate of reaction?	Practice Questions	Gradient, rate, tangent
4	Rates of reaction RPA	Completion of rates of reac- tion practical tasks	Factor, rate, collision
3	What are reversible reactions and equilibrium?	Modelling of equilibrium, completion of practical activ- ities	Equilibrium
4	How do concentration and pressure affect equi- librium?	Practice Questions	Dynamic equilibrium
5	How does concentration affect equilibrium, and how can this be utilised in industry?	Application task	Dynamic equilibrium
6	What is the Haber process?	Exam questions	Haber process, equilibri- um, compromise condi- tions
7	How are fertilisers used?	Completion of comparison task looking at production of fertilisers	NPK fertilisers