

Chemistry – Year 13 Inorganic and Physical Chemistry Curriculum

	Content (Intent)	Links to prior learning	Skills and Assessment (Implementation)	Expected Learning Outcomes (Impact)
Term 1 – physical chemistry	Thermodynamics - enthalpy changes - Born Haber cycles - Enthalpy changes of solution - Factors affecting lattice enthalpy - Entropy - Gibbs free energy	Y12 energetics Y12 Bonding	Skills: Practical Skills – recap RP2 enthalpy change of solution practical Maths skills - calculations using positive and negative numbers, balancing equations, rearranging equations, unit conversions Literacy Assessment: Paper 2 mock - 1hour 45 C7-15	- define enthalpy of formation, ionisation energy, enthalpy of atomisation, bond enthalpy, electron affinity, enthalpy of hydration, enthalpy of solution and lattice enthalpy - construct Born–Haber cycles to calculate one of the enthalpy changes - compare lattice enthalpies from Born–Haber cycles with those from calculations based on a perfect ionic model to provide evidence for covalent character in ionic compounds - calculate entropy changes from absolute entropy values - use the relationship $\Delta G = \Delta H - T\Delta S$ to determine how ΔG varies with temperature use the relationship $\Delta G = \Delta H - T\Delta S$ to determine the temperature at which a reaction becomes feasible.
	Equilibrium constant K_p for homogeneous systems - Partial pressure - Mole fraction - K_p calculations	Y12 Equilibria topic Y11 reversible reactions topics	Skills: Practical Skills Maths skills – calculating mole fractions and partial pressure, writing expression for K _p , determining units of K _p , rearranging and evaluating K _p Literacy Assessment:	- derive partial pressure from mole fraction and total pressure - construct an expression for K_p for a homogeneous system in equilibrium - perform calculations involving K_p - predict the qualitative effects of changes in temperature and pressure on the position of equilibrium

Chemistry – Year 13 Inorganic and Physical Chemistry Curriculum

	Content (Intent)	Links to prior learning	Skills and Assessment (Implementation)	Expected Learning Outcomes (Impact)
			End of topic test covering content from this topic and previous topics. Test includes multiple choice, structured, closed short answer, and open response questions	• predict the qualitative effects of changes in temperature on the value of K_p • understand that, whilst a catalyst can affect the rate of attainment of an equilibrium, it does not affect the value of the equilibrium constant
Term 2			•	
	Term 5 Revision	Consolidates the learning from terms 1-4.		To consolidate their knowledge and understanding of the course content and exam skills.

Resources and/or activities to support learning

Resource	Where to find it	Why?
Textbook	Kerboodle: www.kerboodle.com	Use for research, to consolidate class work, complete summary questions
CGP student books	CGP A level chemistry Student book – available to order through the school at the start of each academic year	Use for research, to consolidate class work, complete summary questions
Chemistry hand book	You should have a copy of this – ask your teacher if you don't	Useful course information, study tips, revision tips, opportunities to reflect on your progress
Practical guide	You should have a copy of this in your practical folder – ask your teacher if you don't	Use to prepare for and review methods for required practicals which will be assessed in end of topic assessments and papers
Teacher powerpoints,	Teams	Use to consolidate class work, complete homework tasks and questions

Chemistry – Year 13 Inorganic and Physical Chemistry Curriculum

worksheets and exam question packs		
AQA website	http://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405	specification, past papers and mark schemes
Physics and Maths tutor	AQA A-level Chemistry Revision - PMT (physicsandmathstutor.com)	It saves you time making your own revision notes. Answering questions allows you to apply what you have learned and identify gaps in your knowledge. Also has notes, flash cards, questions and videos for the required practicals
Chem guide	www.chemguide.co.uk	very detailed explanation of all parts of the course with some excellent summary questions and answers. This is not specific to AQA so it contains some things you don't need to know, but it's a really good place to start if you are looking for good explanations of the content
Chem revise	www.chemrevise.org	Online revision guides for all chapters
A level chemistry.co.uk	www.alevelchemistry.co.uk	Notes, exercises, tests and “exam papers”