NEXT

Idsall School
Year 13 A Level Chemistry Learning Journey

Good luck in all your future endeavours what ever the path you have chosen to take.

SUMMER EXAMS

REVISION and EXAM
Summer Term 2

Consolidation of all knowledge learnt over the entire course. Past exam paper practice. At this point we are perfecting exam technique and working on any knowledge that you are not completely confident with.

End of Year Revision and Exam Preparation
Summer Term 1

6.2 Nitrogen Compounds, Polymers and Synthesis - This section focuses on organic nitrogen compounds, including amines, amides and amino acids. Chirality and optical isomerism is also introduced. Condensation polymerisation is also introduced and compared with addition polymerisation. The importance of carbon–carbon bond formation in organic synthesis is stressed. Learners are also able to consider multi-stage synthetic routes towards an organic product.

6.3 Analysis – This section demonstrates how analytical techniques introduced in Module 4 (infrared spectroscopy, mass spectrometry and elemental analysis) may be used in combination with NMR spectroscopy to provide evidence of structural features in molecules. The instrumentation methods of analysis studied during the A level course provide learners with an important base of knowledge, understanding and awareness for further study in Higher Education and in many areas of employment in the broad scientific field.

6.2 Nitrogen Compounds, Polymers and Synthesis; 6.3 Analysis
Spring Term 2

6.1 Aromatic Compounds, Carbonyls and Acids - This section extends the range of functional groups encountered in Module 4. Aromatic compounds are first introduced, including the central role of delocalisation within the chemistry of arenes and phenols. Directing groups are also introduced, including their importance to organic synthesis. The important carbonyl compounds, aldehydes and ketones, are then studied. Finally, carboxylic acids and their related functional groups, acyl chlorides and esters, are studied. The importance of acyl chlorides in organic synthesis is emphasised.

6.1 Aromatic Compounds, Carbonyls and Acids
Spring Term 1

THEN

5.2.5-6 Entropy and Free Energy – Explain that entropy is a measure of the dispersal of energy in a system which is greater, the more disordered a system. Understand t the feasibility of a process depends upon the entropy change and temperature in the system, TΔS, and the enthalpy change of the system, ΔH.

5.2.7-10 Redox Titrations and Electrochemistry – Understand the differences between acids and bases, and how they calculations, techniques and procedures used when carrying out redox titrations including those involving Fe2+/MnO4 – and I2/S2O3 2–. Use the term standard electrode (redox) potential, E o , including its measurement using a hydrogen electrode. Carry out calculations to predict the feasibility of a reaction.

5.3 Transition Metals - This section includes the role of ligands in complex ions, stereochemistry, precipitation, ligand substitution and redox reactions. The colour changes and observations in these reactions increase the toolkit of qualitative inorganic tests for identifying unknown ionic compounds.

5.2.5-6 Entropy and Free Energy; 5.2.7-10 Redox Titrations and Electrochemistry; 5.3 Transition Metals- Autumn Term 2

5.1 Rate, Equilibrium and pH - The largely qualitative treatment of reaction rates and equilibria encountered in Module 3 is developed within a quantitative and graphical context. This section also allows learners to develop practical quantitative techniques involved in the determination of reaction rates and pH.

5.2.1-4 Lattice Enthalpy, Born Haber and Enthalpy of Solution - Born–Haber cycles are used as a theoretical model to illustrate the energy changes associated with ionic bonding. Be able to explain of the term lattice enthalpy (formation of 1 mol of ionic lattice from gaseous ions, ΔLEH) and use as a measure of the strength of ionic bonding in a giant ionic lattice. use of the enthalpy change of solution of a simple ionic solid (e.g. NaCl, MgCl 2) and relevant energy terms (enthalpy change of hydration and lattice enthalpy.

NOW

5.1 Rate Equilibrium and pH; 5.2.1-4 Lattice Enthalpy, Born Haber and Enthalpy of Solution- Autumn Term 1

Year 12

You will have a portfolio of revision material, to help remember content covered and commit key information to long term memory. Make sure you are confident on the content covered this year, so you are ready to build upon this in Year 13. You will build upon content already learned with more complex content and complete the outstanding PAG practical assessments.

Start here