

SUMMER WORK - CHEMISTRY

Head of Department

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Exam Board

AQA

Specification

7404/7405

COURSE DETAILS

Examination

The A-Level is examined as a whole at end of Y13. There is no coursework.

Year 1 Chemistry

Physical chemistry: Atomic structure, Amount of substance, Bonding, Energetics, Kinetics, Chemical equilibria, Le Chatelier's principle and K_c , oxidation, reduction and redox equations.

Inorganic chemistry: Groups 2 the alkaline earth metals, Group 7 the halogens, periodicity.

Organic chemistry: Introduction to organic chemistry, Alkanes, Halogenoalkanes, Alkenes, Alcohols, Organic analysis.

In Year 12 students complete 6 Required practicals. These will be assessed in the final exams.

Year 2 Chemistry

In addition to the above to the following topics will be studied:

Physical chemistry: Thermodynamics, Acids and Bases, Electrode potentials and electrochemical cells, Rate equations, Equilibrium constant K_p for homogeneous systems.

Inorganic chemistry: Transition metals, Reactions of ions in aqueous solution, Properties of Period 3 elements and their oxides.

Organic chemistry: Optical isomerism, Aldehydes and ketones, Carboxylic acids and derivatives, Aromatic chemistry, Amines, Polymers, Amino acids, proteins and DNA, Nuclear magnetic resonance spectroscopy, Chromatography, Organic synthesis.

In Year 13 students complete a further 6 Required practicals. These will be assessed in the exams and provide the evidence for the Practical Endorsement.

SUMMER WORK FOR INTRODUCTION TO YEAR 12

TASK	TOPIC	
1.	General	Complete: Transition from GCSE to A-level questions on following tab 'supporting documents'

ADVISED READING TO PREPARE FOR COURSE

I recommend the following books; both are available on Amazon for around £5. These will help bridge the gap between GCSE and A-Level, and boost your confidence before the course begins.

Summer Start for A-Level Chemistry: Over 250 Questions and answers Paperback – 11 Jun 2017 by Primrose Kitten (Author)

Head Start to A-level Chemistry (CGP A-Level Chemistry) Paperback – 2 Mar 2015 by CGP Books

HOW WILL I BE ASSESSED?

Exam Papers Y13	% of A Level	Y13 is assessed through three papers, including at least 20% assessment of mathematical skills and 15% assessment of practical skills
Paper 1: Paper 1: Relevant Physical chemistry topics, Inorganic chemistry and relevant practical skills. 2 hours – 105 marks	35%	This paper is made up of: 105 marks with a mixture of short and long answer questions.
Paper 2: Relevant Physical chemistry topics, Organic chemistry and relevant practical skills. 2 hours – 105 marks	35%	This paper is made up of: 105 marks with a mixture of short and long answer questions.
Paper 3: Any content, any practical skills 2 hours – 90 marks	30%	40 marks of questions on practical techniques and data analysis, 20 marks of questions testing across the specification and 30 marks of multiple choice questions.

WIDER READING

Magazines and Journals:

Chemistry Review

The Mole

Nature

Scientific American

British Medical Journal (www.bmj.com)

New Scientist (available in the library or see www.newsscientist.com)

Books:

Why Chemical Reactions Happen, James Keeler

The Disappearing Spoon...and other true tales from the Periodic Table by Sam Kean

Napoleon's Buttons: How 17 Molecules Changed History by Penny Le Couteur, Jay Burreson

Made to Measure: New Materials for the 21st Century by Philip Ball

The Pleasure of Finding Things Out, Richard Feynman

Periodic Tales, Hugh Aldersey-Williams

Uncle Tungsten, Oliver Sachs

The Shocking History of Phosphorus: A Biography of the Devil's Element, John Emsley