



Workington Academy - Sixth Form

Subject: Chemistry

Why you should study Chemistry

By studying AS/A Level Chemistry you will develop your understanding of the properties and reactions of substances. You will have the opportunity to apply your understanding to familiar and more challenging new situations through a wide range of problem solving activities. Practical work is an important and essential aspect of the course.

Examination Board: AQA

Course Content

Physical Chemistry

- Atomic structure
- Amount of substance
- Bonding
- Energetics
- Kinetics
- Chemical equilibria and Le Chatelier's Principle
- Oxidation, reduction and redox equations
- Thermodynamics
- Rate equations
- Equilibrium constant K_c for homogeneous systems
- Electrode potentials and electrochemical cells
- Acids and bases

Organic Chemistry

- Introduction to organic chemistry
- Alkanes
- Halogenoalkanes
- Alkenes
- Alcohols
- Organic analysis
- Optical isomerism (A-Level only)
- Aldehydes and ketones (A-Level only)
- Carboxylic acids and derivatives (A-Level only)
- Aromatic chemistry (A-Level only)
- Amines (A-Level only)
- Polymers (A-Level only)
- Amino acids, proteins and DNA (A-Level only)
- Organic synthesis (A-Level only)
- Nuclear magnetic resonance spectroscopy (A-Level only)
- Chromatography (A-Level only)



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Inorganic Chemistry

- Periodicity
- Group 2, the alkaline earth metals
- Group 7, the halogens
- Properties of Period 3 elements and their oxides (A-Level only)
- Transition metals (A-Level only)
- Reactions of ions in aqueous solution (A-Level only)

Assessment:

Paper 1 (Physical and Inorganic) and **Paper 2** (Physical and Organic):

- 2 hours
- 105 Marks
- 35% each

Paper 3 (Synoptic):

- 2 hours
- 90 Marks
- 30%

Skills Developed, Progression and Possible Future Careers

With GCE A Level in Chemistry, the following career opportunities are possible: Chemist; GP; Physician; Biochemist; Forensic Scientist; Pharmacologist; Biomedical Scientist; Lawyer; Insurer; Accountant; Environmental Scientist; Marine Biologist; Nutritionist and Laboratory Analyst.