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A-Level Chemistry

Exam Board: AQA
Entry Criteria:

- **Grade 6 or above in GCSE Chemistry OR Grade 6,6 or above in Combined Science, including a Grade 6 or above in each Chemistry paper.**
- **Grade 6 or above in GCSE Maths.**

Overview

Chemistry is often regarded as one of the most challenging A-Levels, crucial for pursuing Medicine, Engineering, and many science-based degrees. The course develops problem-solving, analytical thinking, and data manipulation skills, with a strong emphasis on organic and inorganic chemistry, practical techniques, and mathematical understanding. Topics include the chemical properties of elements and compounds, practical analytical methods (e.g., calorimetry, titration), and the study of enthalpy, entropy, and equilibrium. Success in this subject requires a mix of conceptual understanding and rigorous practice.

How You Will Be Assessed

Paper 1 (35% of A-Level)

- **Duration:** 2 hours
- **Content:** Physical Chemistry (sections 3.1.1 to 3.1.4, 3.1.6 to 3.1.8, 3.1.10 to 3.1.12) & Inorganic Chemistry (section 3.2)
- **Format:** 105 marks of short and long answer questions

Paper 2 (35% of A-Level)

- **Duration:** 2 hours
- **Content:** Physical Chemistry (sections 3.1.2 to 3.1.6, 3.1.9) & Organic Chemistry (section 3.3)
- **Format:** 105 marks of short and long answer questions

Paper 3 (30% of A-Level)

- **Duration:** 2 hours
- **Content:** All course content
- **Format:**
  - 40 marks on practical techniques and data analysis
  - 20 marks on testing knowledge across the specification
  - 30 marks of multiple-choice questions

Reading List

Books

1. The Pleasure of Finding Things Out by Richard Feynman
2. Periodic Tales by Hugh Aldersey-Williams
3. The Disappearing Spoon by Sam Kean
4. Uncle Tungsten by Oliver Sachs
5. The Shocking History of Phosphorus by John Emsley

Journals/Magazines:

1. *Scientific American*
2. *New Scientist*
3. *The Mole*

Websites

1. Periodic Table of Videos: www.youtube.com
2. Royal Society of Chemistry: www.rsc.org.uk
3. Chemguide: www.chemguide.co.uk
4. Institution of Chemical Engineers: www.icheme.org

Super-curricular resources

- **BBC Podcasts:**
  - Inside Science, The Infinite Monkey Cage, Curious Cases of Rutherford and Fry
- **Places to Visit:**
  - Royal Society of Chemistry (London)
  - Science Museum (London)
  - Museum of the History of Science (Oxford)
  - Curie Museum (Paris)

Complementary Subjects

- **Mathematics**, **Physics, Biology**, **Computer Science**
- Also beneficial for subjects using scientific methods or evidence-based reasoning such as **Psychology**, **Law**, **Business**, or **Geography**.

Career Progression

Chemistry A-Level is essential for:

- **Chemistry**, **Chemical Engineering**, **Medicine**, **Pharmacy**, **Dentistry**, **Veterinary Science**

Supportive for:

- **Forensic Science**, **Engineering**, **Biological Sciences** (e.g., Biochemistry, Biomedical Science, Microbiology), **Physics**, **Environmental Science**
- Chemistry A-Level opens doors to various careers, both scientific and beyond. Chemistry graduates often enter fields such as **Law**, **Finance**, **Education**, or **Business** due to the transferable skills gained.