



# CHEMISTRY

'What is the world made of?' If you want to search for the answer to this big question then A-level Chemistry is for you. From understanding how pharmaceuticals interact with our bodies, how we affect the environment and how modern materials are made. In this course you will develop essential knowledge and understanding of fundamental chemical concepts, as well as a variety of areas of chemistry, and you will get to grips with how these relate to each other.

## COURSE DETAILS:

### Physical Chemistry

- Atomic structure
- Amount of substance
- Bonding
- Energetics
- Kinetics
- Chemical equilibria
- Redox reactions
- Thermodynamics
- Rate equations
- Equilibrium constant
- Electrode potentials
- Acids and bases

### Organic Chemistry

- Alkanes
- Halogenoalkanes
- Alkenes
- Alcohols

- Organic Analysis
- Optical isomerism
- Aldehydes and Ketones
- Carboxylic acids
- Aromatic Chemistry
- Amines
- Polymers
- Amino acids, proteins and DNA
- Organic synthesis
- Nuclear Magnetic Resonance
- Spectroscopy
- Chromatograph

### Inorganic Chemistry

- Periodicity
- Group 2 elements
- Group 7 elements
- Properties of Period 3 elements
- Transition metals
- Reactions of ions in aqueous solution

### EXAM BOARD: AQA (7405)

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**ASSESSMENT:**  
PAPER 1: PHYSICAL CHEMISTRY, INORGANIC CHEMISTRY AND RELEVANT PRACTICAL SKILLS  
PAPER 2: PHYSICAL CHEMISTRY, ORGANIC CHEMISTRY AND RELEVANT PRACTICAL SKILLS  
PAPER 3: ANY CONTENT AND PRACTICAL SKILLS  
ALL PAPERS LAST 3 HOURS

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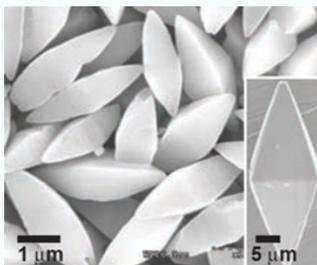
## OTHER LEARNING OPPORTUNITIES:

- Lecture demonstrations at local Universities
- Industry tours
- Supporting KS3/4 students in Science lessons

## WHERE NEXT WITH THIS COURSE?

A-level Chemistry is often a requirement for degree courses in Medicine, Dentistry, Veterinary Science, Pharmacy, Pharmacology, Analytical Chemistry and Chemical Engineering. Some courses that find chemistry desirable include food technology, nursing, physiotherapy, radiography, paramedical courses, law and zoology.

A degree in Chemistry could lead to opportunities in chemical industries, such as pharmaceuticals, agrochemicals, petrochemicals, toiletries, plastics and polymers. However, those who study chemistry could enter many different sectors including the food and drink industry, utilities and research, health and medical organisations, journalism and scientific research organisations and agencies.



One example of how Chemists could improve the environment: A carbon capturing microporous copper silicate material has been created that could offer a cheaper and simpler way of capturing carbon dioxide from the gas flues of fossil fuel power plants.



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# HIGHAM LANE SIXTH FORM