



# Chemistry

## Description

*Chemistry enables students to explore key processes related to matter and its behaviour. Students consider the relationship between materials and energy through four themes: the design and composition of useful materials, the reactions and analysis of chemicals in water, the efficient production and use of energy and materials, and the investigation of carbon-based compounds as important components of body tissues and materials used in society. Students examine classical and contemporary research, models and theories to understand how knowledge in chemistry has evolved and continues to evolve in response to new evidence and discoveries.*

## Unit Topics

**Unit 1 - How can the diversity of materials be explained?**

**Unit 2 - What makes water such a unique chemical?**

**Unit 3 - How can chemical processes be designed to optimise efficiency?**

**Unit 4 - How are organic compounds categorised, analysed and used?**

## Skill Development

*Inquiry skills involving practical experimentation and research, analytical skills including critical and creative thinking, communication skills.*

## Possible Assessment Tasks

*Practical Investigation, Research task with class preparation, Self directed investigation test.*

## Activities/Camps/Excursions

*Practical experimentation, Research, Group work, Reading and questions from text, Application of knowledge to unfamiliar contexts, Edrolo, Excursions.*

## Career Options

*Chemistry underpins the production and development of energy, the maintenance of clean air and water, the production of food, medicines and new materials, and the treatment of wastes. Branches of chemistry include organic chemistry, inorganic chemistry, analytical chemistry, physical chemistry and biochemistry. In addition, chemistry is applied in many fields of endeavour including agriculture, bushfire research, dentistry, dietetics, education, engineering, environmental sciences, forensic science, forestry, horticulture, medicine, metallurgy, meteorology, pharmacy, sports science, toxicology, veterinary science and viticulture.*