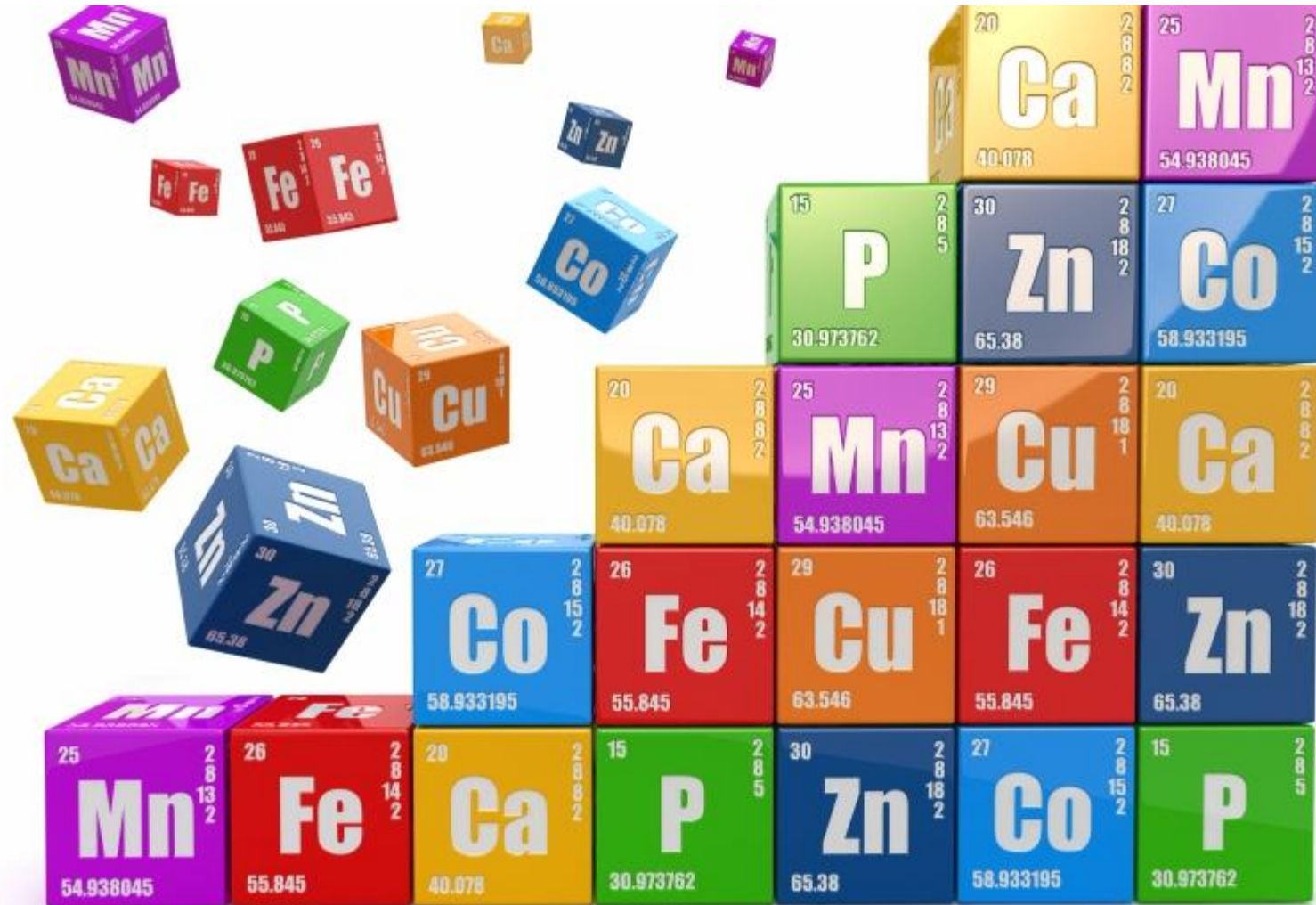


***Sometimes referred to as the 'central science', Chemistry helps to connect physical sciences, like Maths and Physics, with applied sciences, such as Biology, Medicine and Engineering. In fact, Chemistry is all around us and an understanding of the subject can help to answer many simple questions about everyday life!***

***Chemistry is one of the Russell Group universities' 'facilitating' subjects — so called because choosing them at A-level allows a wide range of options for degree study.***



## Why St Josephs?

- Superb labs
- Great results
- Experienced and knowledgeable teachers
- Well resourced
- Lots of support available
- Great links with local universities



## What skills will you get from studying Chemistry?

As it is a science subject, the process of learning it helps you to learn how to be objective, analytical, methodical, process and in turn solve problems. You can apply these skills outside academia, and the study of Chemistry can help understand current events including news about petrol, environmental issues, health and product scares and more.



All that questioning and experimentation can be really handy when it comes to building a whole range of skills for work.

Chemistry helps you to develop research, problem solving and analytical skills.

It helps to you challenge ideas and show how you worked things out through logic and step-by-step reasoning.

Chemistry often requires teamwork and communication skills too, which is great for project management.



A-level Chemistry, often in conjunction with other science-based subjects, can lead to the following types of degree course.

- Biomedical Sciences
- Biochemistry
- Chemical Engineering
- Dentistry
- Dietetics
- Earth Sciences
- Engineering
- Environmental science
- Geology
- Medical Science
- Medicine
- Optometry
- Pharmacy
- Physiotherapy
- Sports Science
- Veterinary Science



# What careers can the study of Chemistry lead to?

There are a wide range of Chemistry-related degrees available, including Analytical Chemistry, Biochemistry, Environmental chemistry, Inorganic Chemistry, Organic Chemistry and Physical Chemistry and Polymer and Materials chemistry.

These degrees in turn can lead to a range of careers as varied as medicine, dentistry, forensic chemistry, geochemistry, R & D management, pharmacy, chemical engineering, petroleum engineering and perfumery.



## What sort of work is involved?

In all these topics, you will need to learn facts and build a body of knowledge but also to understand and apply the ideas. Many topics include calculations and so you should feel comfortable rearranging equations and using numbers.

Importantly, chemistry is a hands-on science and you will carry out experiments on a regular basis. This is to consolidate your theory work, but also provide you with the opportunity to use new apparatus and build your skills and confidence to complete safe and accurate practical work.

## What background do I need?

A level Chemistry requires an interest in the subject and an enthusiasm and commitment to work hard. You will need to develop your abilities to work independently and take responsibility for your own progress. Usually, students have studied the subject at GCSE, and ideally, you will have at least a 7 in GCSE science (double or separate sciences) and mathematics. You will also need to be able to write effective English using scientifically accurate



**GCSE  
RESULTS**

# What will I study in year 12?

## Physical Chemistry

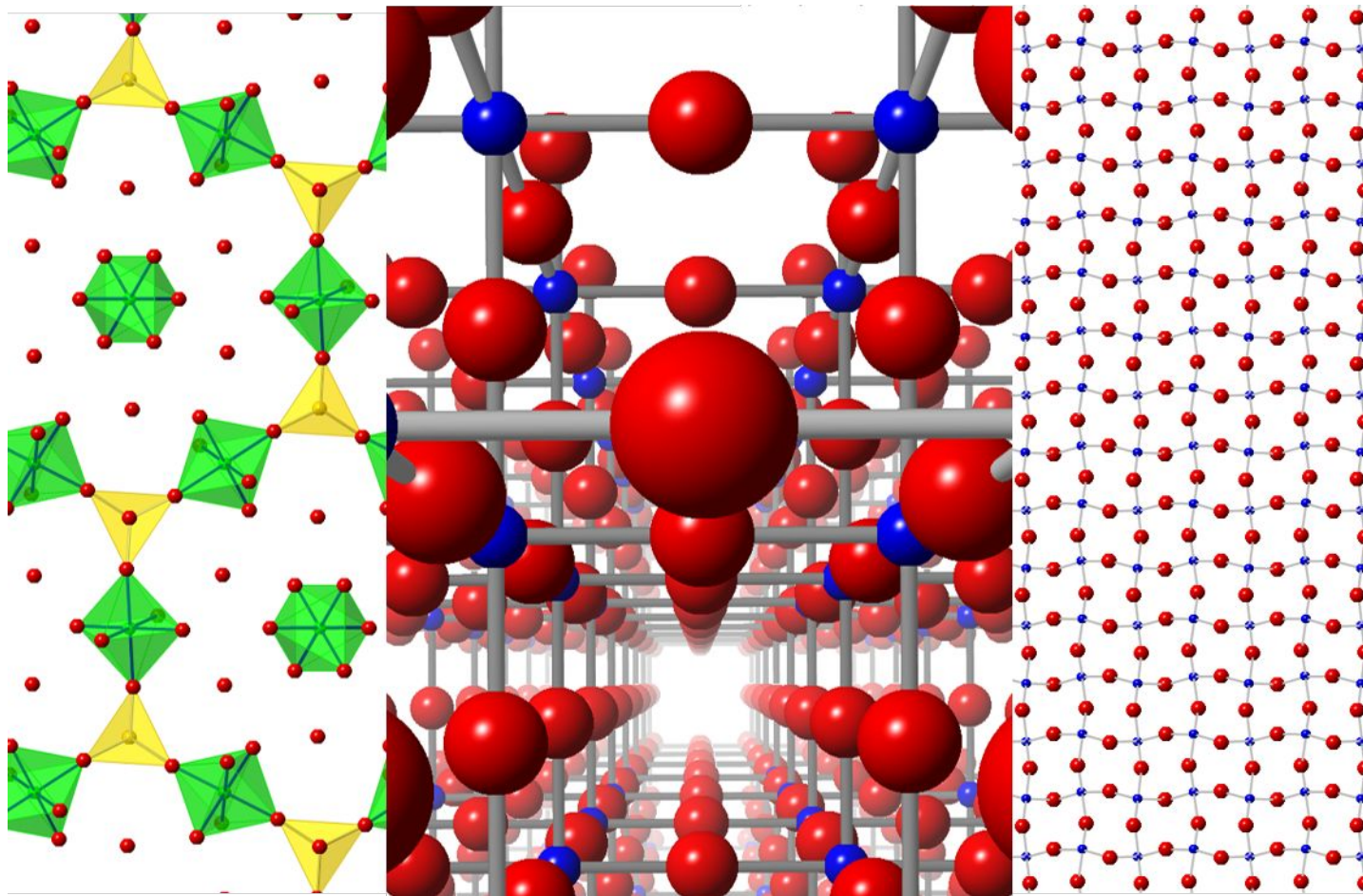
- Atomic structure
- Amount of substance
- Bonding
- Energetics
- Kinetics
- Chemical equilibria and Le Chatelier's principle
- Oxidation, reduction and redox equations

## Inorganic Chemistry

- Periodicity
- Group 2, the alkaline earth metals
- Group 7 (17), the halogens

## Organic Chemistry

- Introduction to organic chemistry
- Alkanes
- Halogenoalkanes
- Alkenes
- Alcohols
- Organic analysis





# What will I study in year 13?

## Physical Chemistry

- Thermodynamics
- Rate equations
- Equilibrium constant  $K_p$  for homogeneous systems
- Electrode potential and electrochemical cells
- Acids and bases

## Inorganic Chemistry

- Properties of Period 3 elements and their oxides
- Transition metals
- Reactions of ions in aqueous solution

## Organic Chemistry

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



For further information email Dr Glen

[aglen@stjosephs.uk.net](mailto:aglen@stjosephs.uk.net)

or pop along for a chat about A level chemistry.