A LEVEL Chemistry Learning Journey

Key Stage 5

Biochemistry

Polymers

Amino acids

Amines

Further kinetics

Acid equilibria

Further organic chemistry

Period 3

SC6-7 Covalent Bonding & Structures

Transition Metals

Thermodynamics

Year 13

Practical work

Infra red spectroscopy

Kinetics

Alcohols

Haloalkanes

Alkenes

Reversible Reactions & Equilibria

Alkanes

Group 7

Group 2

Introduction to organic chemistry

Energetics

Periodicity

Bonding and intermolecular forces

Mass Calculations

Mass spectrometry

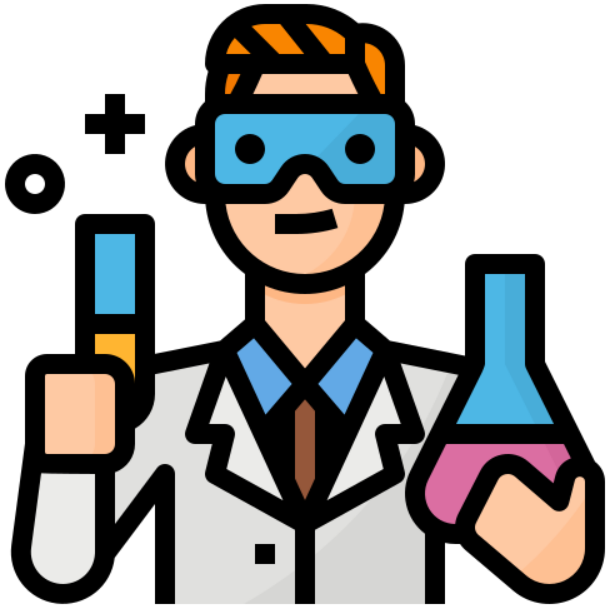
Year 12

Chemistry Careers

Pharmacologist	Doctor or nurse
Research Scientist	Analytical chemist
Chemistry teacher	Forensic Scientist
Nanotechnologist	Toxicologist
Environmental analyst	Air quality research
Biochemist	Chemical Engineer

Curriculum Links

	Maths		MFL
	English		IT
	P.E		RE
	Geography		Careers
	Art		PHSE
	Design		Physics
	Music		Biology



Required Practicals

1 Make up a volumetric solution and carry out a simple acid–base titration

2 Measurement of an enthalpy change

3 Investigation of how the rate of a reaction changes with temperature

4 Carry out simple test-tube reactions to identify:
- cations – Group 2, NH_4^+
- anions – Group 7 (halide ions), OH^-, CO_3^{2-}, SO_4^{2-}

5 Distillation of a product from a reaction

6 Tests for alcohol, aldehyde, alkene and carboxylic acid

7 Measuring the rate of reaction:
- by an initial rate method
- by a continuous monitoring method

8 Measuring the EMF of an electrochemical cell

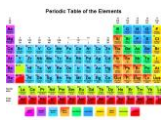
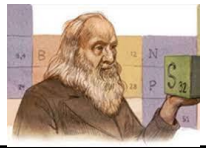
9 Investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base

10 Preparation of:
- a pure organic solid and test of its purity
- a pure organic liquid

11 Carry out simple test-tube reactions to identify transition metal ions in aqueous solution

12 Separation of species by thin-layer chromatography

Read like a Chemist

The periodic table – Primo Levi	Why do chemical reactions happen – James Keeler
Creations of Fire – Cathy Cobb	50 chemistry ideas you need to know – Hayley Birch
 Mendeleev's Dream – Paul strathern 	The disappearing spoon and other true tales from the periodic table – Sam Keen
	Napoleon's buttons: How 17 molecules changed history – Penny Le Couteur
	Periodic tales: The curious lives of elements – Hugh Aldersey Williams