Chemistry

KS2

- Topic 1: States of Matter
- Topic 2: Properties and changes of materials

Year 7

- Topic 1 – An introduction to chemistry – A beginner's guide to everything experimental in the chemistry laboratory
- Topic 2 – Acids and alkalis – Discovering the chemical properties of these famous solutions
- Topic 3 – Types of reaction – Let's find out the basics of chemical reactions
- Topic 4 – The particle model – Using ideas about particles to understand and explain the world around us
- Topic 5 – Separating mixtures – How can we separate materials? What techniques can we use?
- Topic 6 – Climate chemistry – An introduction to environmental and atmospheric science

Year 8

- Topic 1 – The Periodic table – The alchemist's cookbook
- Topic 2 – Elements, compounds and mixtures – What is matter and why it really does matter!
- Topic 3 – The chemistry of metals – Metals are everywhere, what do they do, how do they react?
- Topic 4 – Chemical energy – Reactions that cause temperature changes
- Topic 5 – Extraction of metals – How chemistry has changed the world through the discovery of metals
- Topic 6 – Earth's resources – How chemistry can help us understand materials, their properties, their uses and managing waste.

Year 9

- Topic 1 - Atomic Structure and the Periodic Table – All about atoms, their structure and their arrangement in the periodic table
- Topic 2 - Bonding, Structure and the Properties of Matter – How are atoms joined together and why REALLY helps us understand the world around us
- Topic 3 - Chemistry of the atmosphere – If we're going to save our planet, we first have to understand it!

Year 10

- Topic 1 - Chemical changes – Re-arranging atoms; the magic of chemistry. Chemical reactions and their importance in our world
- Topic 2 - Energy changes – Explaining and understanding the link between chemistry and energy
- Topic 3 - The rate and extent of chemical change – Making more and making it faster. Making chemistry work for us in the real world.
- Topic 4 – Using resources – Everyday applications of chemistry in the real world

Year 11

- Topic 1 - Organic chemistry – The chemistry of carbon

- Topic 2 – Quantitative chemistry – How much and how do we know? Using maths in chemical reactions
- Topic 3 – Analytical Chemistry – Using chemistry to investigate and identify the materials around us
- Topic 4 – Synoptic units – Linking your learning by focusing in on some key concepts in chemistry

Year 12

- Topic 1 – Atomic structure and the periodic table
- Topic 2 – Chemical bonding and structure
- Topic 3 – Fundamentals of oxidation and reduction
- Topic 4 – Formulae and equations
- Topic 5 – Fundamentals of organic chemistry
- Topic 6 –Fundamentals of chemical energetics
- Topic 7 – Fundamentals of reaction kinetics
- Topic 8 – Chemical equilibrium
- Topic 9 – Instrumental techniques

Year 13

- Topic 1 – Acid and base chemistry
- Topic 2 – Advanced chemical energetics
- Topic 3 – Advanced redox chemistry
- Topic 4 – Transition metals
- Topic 5 – Advanced organic chemistry
- Topic 6 - Advanced reaction kinetics
- Topic 7 – Further instrumental techniques