

AUTUMN 1

Induction	Module 2.1 Atoms and reactions. Atomic structure, isotopes.	Module 2.2 Electrons, bonding and structure. Electronic configuration, orbitals.	Prior Learning Electronic configuration; moles calculations; atomic structure.
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AUTUMN 2

Module 2.2 Electrons, bonding and structure. Electronic configuration, orbitals.	Module 3.1 The Periodic Table. Ionisation energy, Group and Group 7 elements.	Module 3.2 Physical chemistry. Rates of reaction, Boltzmann, Le Chatelier's Principle.	Prior Learning Electronic configuration, atomic structure, ionic and covalent bonding; physical properties of metallic, ionic and covalent structures.
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SPRING 1

Module 3.2 Physical Chemistry Rates of reaction, Boltzmann, Le Chatelier's Principle.	Module 4.1 Basic Concepts and Hydrocarbons. Nomenclature, alkanes, alkenes.	Prior Learning Rates of reaction, equilibrium, bond energies; Organic nomenclature, organic structures; reactions of organic molecules.
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SPRING 2

Module 4.1 Basic Concepts and Hydrocarbons. Nomenclature, Alkanes, Alkenes.	Module 4.2 Alcohols, haloalkanes and analysis. Alcohol and haloalkanes formation and reactions; qualitative analysis.	Prior Learning Organic nomenclature, organic structures; reactions of organic molecules; anion and cation analytical tests.
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SUMMER 1

Module 4.2 Alcohols, haloalkanes and analysis. Alcohol and haloalkanes formation and reactions; qualitative analysis.	AS Chemistry Revision of Modules 2 and 3	Prior Learning Reactions of organic molecules; anion and cation analytical tests.
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SUMMER 2

AS Chemistry Revision of Module 4	Module 6.1 Aromatic compounds, carbonyls and acids Reactions of carbonyls, mechanisms, carbonyl identification.	Module 6.2 Nitrogen compounds, polymers and synthesis. Amines, amino acids, amides and polyamides/polyesters.	Prior Learning Organic molecules, reactions of organic molecules.
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CAREERS LINKS

Pharmaceutical chemist, analytical chemist, chemical engineer, forensic scientist. Teacher, research scientist, manufacturing. Biotechnologist, medicine, biochemistry.

CHARACTER LINKS

- Motivation, resilience and teamwork (performance virtues) forged through scientific investigation.
- Confidence and determination (performance virtues) forged through tackling challenging work.
- Listening, critical thinking and problem solving (intellectual virtues) forged through the analysis techniques of Mass Spectrometry, NMR and IR spectroscopy.

KEY ASSESSMENT DATES

Pupils complete assessments in line with the KS5 assessment calendar. There are also extra end of topic assessments and end of year 12 assessments.