Chemistry Knowledge Journey

C12/13/14/15

- Useful Alloys
- Water Safe to Drink
- Rusting
- Extracting Metals From Ore

REVISION & EXAMS

Career Paths

Chemistry can open doors to future careers in medicine and chemical industries

Skills

Analysis • Attention to Detail • Communication • Cultural Understanding • Empathy • Literacy • Organisation Problem solving • Research • Patience • Logical Thinking

Interest

A continued passion and love of learning about Science

Continued Targeted Support

YEAR 11

Analysis and the Earth's Resources

- Analysing Chromatographs
- Testing for Gases
- Fertilisers
- Haber Process
- Glass, Ceramics and Composites

Rates, Equilibrium and Organic Chemistry

- Reaction of Alkenes
- Catalysts
- Structures of Alcohols, Carboxylic Acids and Esters
- Factors Affecting Rate of Reaction
- Uses of Alcohols
- Addition Polymerisation
- Condensation Polymerisation
- Natural Polymers
- DNA

Forces in Balance

- Displacement Reactions
- Changes at the Electrodes
- Neutralisation
- Electrolysis
- Half Equations
- Products of Electrolysis
- Endothermic and Exothermic Reactions
- Reaction Profiles

YEAR 10

Structure and Bonding

- Nanoparticles
- Ionic Bonding
- Covalent Bonds
- Giant Ionic Structures
- Molecular Compounds
- Fullerenes and Graphene
- Bonding in Metals
- Bonding Models

The Earth's Atmosphere

- Atmospheric Pollutants
- Global Climate Change
- Greenhouse Gasses
- History of Our Atmosphere
- Our Evolving Atmosphere

Chemical Calculations

- Relative Masses and Moles
- Calculations Using Masses
- From Masses to Balance Equations
- Atom Economy
- Titrations
- Volume of Gases

The Periodic Table

- Group 1, 7 trends and transition metals
- The History of the Periodic Table
- Electromagnetic Configuration

YEAR 9

Atomic Structure

- Electronic Structures
- Chromatography
- History of an Atom
- Fractional Distillation
- Separating Mixtures
- Chemical Equations Ion, Atoms and Isotopes Atoms

The Earth

- Types of Rock
- Metals and Water
- The Carbon Cycle
- Climate Change
- Recycling
- The Rock Cycle
- The Earth and its Atmosphere

Metals and Acids

- Composites
- Ceramics
- Extracting Metals
- Metal Displacement
- Metals and Oxygen
- Metals and Acids

Separation Techniques

- Mixtures
- Solutions
- Solubility
- Filtration
- Evaporation and Distillation
- Chromatography

YEAR 8

Reactions

- Chemical Reactions
- Word Equations
- Using Ratios
- Thermal Decomposition
- Conservation of Mass
- Endothermic and Exothermic Reactions

Acids

- Acids and Alkalis
- Indicators and pH
- Neutralisation
- Making Salts

Introduction

- Data
- Communication
- Evidence
- Group 7 – the Halogens
- Group 0 – The Noble Gasses

Periodic Table

- Group 1 Alkali Metals
- Group 7 – the Halogens
- Group 0 – The Noble Gasses

Elements

- Elements
- Atoms
- Compounds
- Chemical Formulae

Particle Model

- The Particles Model
- States of Matter
- Melting and Freezing
- Boiling
- Diffusion
- Density

An Introduction to Physics

- Recording Results
- Scientific Questions
- Data
- Analysis and Evaluating

YEAR 7

RYE COLLEGE
CREATING BRIGHT FUTURES FOR ALL