



# EPCHS SCIENCE DEPARTMENT:

## CHEMISTRY LEARNING JOURNEY YEAR 12



### Additional Information

Examination Board: AQA

Further Information:

<https://filestore.aqa.org.uk/resources/chemistry/specifications/AQA-7404-7405-SP-2015.PDF>

Additional Support: Masterclass; Thursdays 3pm – 4pm

[www.chemguide.co.uk](http://www.chemguide.co.uk)

### Units

#### Unit 1 - Physical Chemistry

Atomic Structure, Amount of Substance, Bonding, Energetics, Kinetics, Chemical Equilibria, Oxidation, Reduction and Redox Reactions.

#### Unit 2 - Inorganic Chemistry

Periodicity, Group 2 - The Alkaline Earth Metals, Group 7 – The Halogens.

#### Unit 3 – Organic Chemistry

Introduction to Organic Chemistry, Alkanes, Halogenoalkanes, Alkenes, Alcohols, Organic Analysis.

End of  
Year Exams

3.1.1 – 3.3.6 Revision

Summer  
Term

3.3.6 Organic  
Analysis

3.3.5  
Alcohols

3.1.7 Oxidation,  
Reduction,  
and Redox Equations

### Assessments

End of topic tests periodically

Spring  
Term

3.1.4  
Energetics

3.1.5  
Kinetics

3.1.6 Chemical Equilibria, Le  
Chatelier's Principle and Kc

3.2 Inorganic  
Chemistry

3.3.4  
Alkenes

### Assessments

End of topic tests periodically

3.3.3  
Halogenoalkanes

3.3.2  
Alkanes

3.3.1 Introduction to  
Organic Chemistry

3.1.3  
Bonding

3.1.2 Amount  
of Substance

3.1.1 Atomic  
Structure

Autumn  
Term



# EPCHS SCIENCE DEPARTMENT:

## CHEMISTRY LEARNING JOURNEY YEAR 13



A Level Exams

Revision

Summer Term

3.3.16 Chromatography

3.3.15 Nuclear Magnetic Resonance Spectroscopy

3.3.14 Organic acids, Proteins and DNA

### Assessments

End of topic tests periodically

Spring Term

3.1.11 Electrode potentials and Electrochemical cells

3.1.12 Acids and Bases

3.2.6 Reactions of Ions in Aqueous Solutions

3.3.11 Amines

3.3.12 Polymers

3.3.7 Optical Isomerism

3.2.5 Transition Metals  
3.2.4 Properties of Period 3 Elements

### Assessments

End of topic tests periodically

Autumn Term

3.3.10 Aromatic Chemistry

3.3.9 Carboxylic Acids and their derivatives

3.3.8 Aldehydes and Ketones

3.1.10 Equilibrium constant  $K_p$  for homogenous systems

3.1.9 Rate Equations

3.1.8 Thermodynamics

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### Units

#### Unit 1 - Physical Chemistry

Thermodynamics, Rate Equation, Acids and Bases, Electrode Potentials and Electrochemical Cells, The Equilibrium Constant.

#### Unit 2 - Inorganic Chemistry

Transition Metals, Reactions of Ions in Aqueous Solutions, Properties of Period 3 Elements and their Oxides

#### Unit 3 – Organic Chemistry

Optical Isomerism, Aldehydes and Ketones, Aromatic Chemistry, Amines, Polymers, Carboxylic Acids and Derivatives, Amino acids, Proteins and DNA, Organic Synthesis, NMR Spectroscopy, Chromatography