

HSC Chemistry Exam Mastery Course Outline

Week 1

Production of Materials I

- Core Theory
 - Polymerisation
 - Renewable Resources (Biomass, Glucose)
 - Ethylene
- Connections between the first 3 dot points.
- Long Response Focus Areas:
 - Describe the steps for the polymerisation of ethylene
 - Evaluation of ethanol as an alternative fuel
 - Renewable resources evaluation
- Practicals:
 - Bromine Water
 - Glucose
 - Molar Heat of Combustion



Stepping Stones
Education
We are 'stepping stones' to success


Week 2

Production of Materials II

- Core Theory
 - Electrochemistry
 - Nuclear Chemistry
- Long Response Focus Areas:
 - Dry-cell and lead-acid cells
 - Radioisotopes in medicine and chemistry
- Practicals:
 - Production of a voltage
 - Research on a new element
- Conclusion for Module 1

Week 3

The Acidic Environment I

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- Stepping Stones
Education
We are stepping to success
- Core Theory
 - Indicators
 - Le Chatelier's Principle
 - Strong and Weak Acids
 - Practicals:
 - Decarbonating a soft drink
 - Modelling strong and weak acids
 - Preparation of a natural indicator
 - Long Response Focus Areas:
 - Evaluation of Impact of Acid Rain
 - Assessment of evidence for increasing levels of NO_x

Week 4

The Acidic Environment II

- Core Theory
 - Titrations
 - Acid/Base Theories
 - Esterification
- Long Response Focus Areas:
 - Historical Development of Acid/Base Theory
 - Neutralisation of Acid Base Spills
- Practicals:
 - Preparation of esters
 - Performing titration
- Conclusion of Module 2

Week 5

Chemical Monitoring and Management I

- Core Theory
 - Role of Chemists
 - The Haber Process
 - Atomic Absorption Spectroscopy
- Long Response Focus Areas:
 - The Haber Process
 - Impact of AAS on Monitoring Trace Elements
- Practicals:
 - Ion tests
 - Sulphate content fertiliser



Week 6

Chemical Monitoring and Management I

- CFCs and the Ozone Layer
- Monitoring Waterways
- Long Response Focus Areas:
 - Treatment of water as it gets to our taps
 - Methods to attack Ozone problem
- Practicals:
 - Water Tests
 - Modelling Isomers
- Conclusion of Module 3

