

**Subject: Chemistry AS (AQA)**

**Year Group: 12**

**Term One: The following topics will be undertaken:**

- Amount of substance, calculation, titration, empirical formulae, balancing equations and the ideal gas law
- Atomic structure including fundamental particles and mass spectrometry
- Bonding - metallic, ionic and covalent bonding, states of matter, intermolecular forces
- Periodicity- periodic table, trends on the period 3 elements and their properties
- Organic chemistry- nomenclature of organic molecules, isomerism and alkanes
- Practical and ISA/EMPA work.

**Term Two: During this term the following topics will be covered:**

- Energetics- Hess' Law measuring enthalpy changes, thermochemical cycles, bond enthalpies
- Kinetics- collision theory, Maxwell-Boltzmann distributions
- Equilibria- Le Chatelier's principle and equilibrium in industry
- Redox reactions- oxidation and reduction reactions, redox equations, oxidation states
- Group 7- reactions of halogens, reactions of halide ions, uses of chlorine
- Group 2 metals- the physical and chemical properties of group 2
- ISA/EMPA examination.

**Term Three:**

**This term work will include extensive revision and the start of the A2 course including:**

- Extraction of metals- principles of metal extraction
- Alcohols- production of ethanol and reactions of the alcohols
- Analytical techniques- mass spectrometry and infra-red spectrometry

**There may be occasions when teachers may not follow the exact order of topics listed to ensure that students have the required depth of knowledge in this subject.**



**Subject: Chemistry A2 (AQA)**

**Year Group: 13**

**Term One: The following topics will be undertaken:**

- **Organic Chemistry- carboxylic acids, esters, aldehydes and ketones, aromatic amines, amino acids and condensation polymerisation**
- **Structural determination – spectroscopy, NMR and chromatography**
- **Periodicity- period 3 elements**
- **Kinetics**
- **Equilibria**
- **Acids and bases**
- **Practical and ISA/EMPA work.**

**Term Two: During this term the following topics will be covered:**

- **Redox equilibria**
- **Thermodynamics**
- **Transition metals**
- **Reactions of Inorganic compounds in aqueous solutions**
- **ISA/EMPA examination**

**Term Three:**

**This term work will include extensive revision.**

**There may be occasions when teachers may not follow the exact order of topics listed to ensure that students have the required depth of knowledge in this subject.**

