

Year 11 Chemistry Grade Review Paper 2

C2.1 The Rate and Extent of Chemical reactions

C2.2 Organic Chemistry

C2.3 Chemical Analysis

C2.4 Chemistry of the Atmosphere

C2.5 Using Resources

C2.1 The Rate and Extent of Chemical reactions

Calculate the rate of chemical reactions, factors affecting the rate of a reaction, collision theory.

Activation energy, catalysts, reaction profiles.

Reversible reactions (exothermic, endothermic, hydrated, anhydrous, Haber process)

Equilibrium (Le Chatelier's Principle, temperature and exothermic/endothermic reactions)

C2.2 Organic Chemistry

Crude Oil (hydrocarbons, general formula, composition, formation, bonding, boiling points)

Fuels (fractional distillation, uses, balanced equations for complete combustion, trends in properties for hydrocarbons, cracking, bromine water test, balanced equations)

C2.3 Chemical Analysis

Pure substances (melting points, boiling points)

Formulations (mixtures, chemicals present, composition)

Chromatography (mobile, stationary phases, R_f value, determine values and interpret)

Testing for gases (hydrogen, oxygen, carbon dioxide), test for chlorine

Decomposition of metal carbonates (compose an equipment list, method, and risk assessment)

C2.4 Chemistry of the Atmosphere

Atmosphere (early atmosphere, composition of gases in the atmosphere today)

Changes in photosynthesis (algae/plants, levels of oxygen and carbon dioxide)

Greenhouse gases (short and long wavelength radiation, human activity, global climate change, global warming)

Carbon footprint (emissions, consequences)

Atmospheric pollutants (complete/incomplete combustion, carbon monoxide, sulphur dioxide (acid rain), particulates, nitrogen oxides)

C2.5 Using Resources

Earth's resources, sustainable development (finite, renewable, natural resources)

Waste and water treatment (sewage treatment process, obtaining potable water)

Extraction of metals (phytomining, bioleaching, displacement, smelting)

Life Cycle Assessment (assess environmental impact, use of water, resources and energy sources)

Reducing the use of resources (energy consumption, waste and environmental impacts, limited resources)

Required Practicals which can also be assessed

- Making Salts
- Neutralisation
- Electrolysis
- Measuring energy changes
- Effect of concentration on rate of reaction
- Chromatography
- Identifying ions
- Purifying water (making potable water).