



Year 13

Subject and Year Group	Autumn Year 13	Autumn 2 Year 13	Spring 1 Year 13	Spring 2 Year 13	Summer 1 Year 13	Summer 2 Year 13
Topic/Unit to be studied	Optical isomers and Carbonyl reactions Structure and determination	Aromatics, Amines Acids/bases and buffers Period 3 Elements and their Oxides	Equilibrium constant and Kinetics Transition metals Thermodynamics	Polymerisation, Biochemistry and Organic Synthesis Electrochemistry	Study leave	Study leave
Core Knowledge and skills	Optical isomerism Nucleophilic Addition Reactions of Esters Reactions of Acyl Chlorides and Acid Anhydrides (addition-elimination) RP10b -Preparation of a pure organic liquid H NMR C NMR	Reactions of Benzene Reactions of Amines Bronsted-Lowry acids and bases. pH, Kw and Ka PH curves Buffers RP9 - Investigating pH changes Group 3 oxides Trends in melting point Reactions of group 3 oxides with water	Equilibrium constant, Kp Rates and order of reaction. Arrhenius equation RP7a & 7b - Measuring the rate of reaction by initial rate and continuous monitoring methods Transition metals Ion complexes Redox titrations Catalysts Ligand substitution RP11 - Test-tube reactions to identify transition metal ions in solution Enthalpy changes. Born-Haber cycles. Entropy and Gibbs free energy	Condensation polymerisation Amino acids and peptides. Protein structure Enzymes DNA Anticancer drugs Organic synthesis pathways Redox Electrochemical cells Cells and batteries RP8 - Measuring the EMF of an electrochemical cell		

Resilience

Responsibility

Reflectiveness



Assessment	Regular homework will be self-assessed with guidance from the teacher and mark schemes. End of topic assessments will be carried out. Mock exams Students will receive feedback on their progression towards CPAC by discussion and in their lab book.					