Bishop Milner Catholic College

Curriculum Plan Chemistry year 10 Triple Curriculum 2016

Autumn Term	Spring Term	Summer Term
T1 (C4) Chemical Changes L1 pH and Neutralisation *L1a Triple/Higher – Strong and Weak Acids* L2 Salts from Metals L3 Salts from Metal oxides and Hydroxides L4 Salts from Ammonia L5 Making Soluble Salts RP1- Making a soluble salt from insoluble oxide or carbonate L6 Making Insoluble Salts L7 Reactivity Series and Metal Reactions L8 Electrolysis *L9 Writing half-equations* L10 Predicting products of electrolysis ($CuSO_4$ and $NaOH_{(aq)}$) L11 Chemical Changes review and EOT Test	T3 (C5 & C6) Energy Changes and Rates of Change L1 Monitoring Chemical Reactions L2 Exothermic and Endothermic reactions *L2a Bond Energies and Calculations* L4 Collision Theory L5 Temperature and Rate of Reaction L6 Concentration and Rate of Reaction RP5-How concentration affects rate of reaction (HCl and Thiosulphate) L7 Surface Area and Rate of Reaction L8 Catalysts and Rate of Reaction L9 Reversible Reactions L10 Rate Graphs *L10a Calculating the gradient on rate graphs* L11 Haber process *L11a Equilibrium and Factors* *L11b Le Chatelier's Principle* *L12 – Production and use of NPK fertilizers* L13 Energy Changes and Rate Review and End of Topic (EOT) Test	T5 (C3) Quantitative Chemistry L1 RAM and RFM L2 Balancing Equations L3 Empirical Formula L4 Predicting Masses L5 Reacting Masses L6 Moles - Solids L7 Moles – Solutions *L7a Finding concentration (g/dm^3 and mol/dm^3) of an unknown solution using moles* *L8 Atom Economy* *L9 Percentage Yield* *L10 Moles of Gases pV=nRT* RP2- Determining reacting volumes of solutions of strong acid or strong base (Titration) L8 Quantitative Chemistry review and EOT Test
HALF TERM		

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T2 (C2) Bonding, Structure and Properties L1 Atomic Structure Recap L2 Formation of Ions L3 Formation of Ions II L4 Ionic Bonding L5 Predicting Formula of Ionic Compounds L6 Properties of Ionic Compounds L7 Covalent Bonding L8 Simple covalent molecules L9 Giant Covalent Molecules L10 Metallic Bonding L11 Bonding, Structure and Properties *L11a Limitations of simple model of Solids, Liquids and Gases* L12 Review and EOT Test	T4 (C8) Chemical Analysis L1 Purity and Formulations L2 Paper Chromatography L3 Testing for Gases (Cl_2, O_2, CO_2 and H_2) L4 Qualitative Analysis – Flame tests and NaOH test L5 Qualitative Analysis – Anions RP7-Chemical tests to identify ions in unknown compounds (Flame tests- Li^+, Na^+, K^+, Ca^{2+}, Cu^{2+}) (NaOH tests - Al^{3+}, Ca^{2+}, Mg^{2+}, Cu^{2+}, Fe^{2+}, Fe^{3+}) (Anion tests – CO_3^{2-}, Cl^-, Br^-, I^-, SO_4^{2-}) *L6 Instrumental Methods of Analysis – (Spectroscopy)* L7 Chemical Analysis Review and EOT Test	T5 (C3) Quantitative Chemistry L1 RAM and RFM L2 Balancing Equations L3 Empirical Formula L4 Predicting Masses L5 Reacting Masses L6 Moles - Solids L7 Moles – Solutions *L7a Finding concentration (g/dm^3 and mol/dm^3) of an unknown solution using moles* *L8 Atom Economy* *L9 Percentage Yield* *L10 Moles of Gases pV=nRT* RP2- Determining reacting volumes of solutions of strong acid or strong base (Titration) L8 Quantitative Chemistry review and EOT Test