

TRIPLE CHEMISTRY HIGHER TIER

Week 1

Session 1 – Atomic Structure

[Cognito Video #1](#)

[Cognito Video #4](#)

Session 2- [5.1 Practice Exam Questions](#)

Session 3- Development of the Periodic Table

[Development of the Periodic Table FreeScienceLessons](#)

[Cognito Video #9](#)

Session 4 – Metals & Non-Metals

[Metals FreeScienceLessons](#)

[Cognito Video #10](#)

Session 5 – Group 0

[Group 0 FreeScienceLessons](#)

Session 6 – Group 1

[Group 1 FreeScienceLessons](#)

[Group 1 FreeScienceLessons part 2](#)

[Cognito Video #11](#)

Session 7 – Group 7

[Group 7 FreeScienceLessons Part 1](#)

[Group 7 FreeScienceLessons Part 2](#)

[Group 7 FreeScienceLessons Part 3](#)

Week 2

Session 1 – [5.2 Practice Exam Questions](#)

Session 2 – Ionic Bonding

[IonicBonding1 FreeScienceLessons](#)

[IonicBonding 2 FreeScienceLessons](#)

[Cognito Video #13](#)

[Cognito Video #14](#)

Session 3– Covalent Bonding

[Covalent Bonding 1 FreeScienceLessons](#)

[Covalent Bonding 2 FreeScienceLessons](#)

[Covalent Bonding 3 FreeScienceLessons](#)

[Cognito Video #16](#)

Session 4 – Properties of Ionic Compounds

[Properties of Ionic Compounds FreeScienceLessons](#)

[Cognito Video# 15](#)

Session 5– Properties of Small Covalent Molecules

[Properties of Small Covalent Molecules FreeScienceLessons](#)

Session 6 – Polymers

[Bonding in Polymers FreeScienceLessons](#)

[Cognito Video #23](#)

Session 7– Giant Covalent Structures

[Cognito Video #17](#)

Week 3

Session 1 – Metals & Alloys

[Metals & Alloys FreeScienceLessons](#)

[Cognito Video #20](#)

Session 2 – Diamond & Graphite, Graphene & Fullerenes

[Cognito Video #18](#)

[Cognito Video #19](#)

Session 3 – [5.2 Practice Exam Questions](#)

Session 4– Moles/Amounts of Substances in Equations

[Cognito Video #24](#)

[Reacting Masses 1](#)

[Reacting Masses 2](#)

Session 5– Using moles to balance equations

[Using Moles to Balance Equations FreeScienceLessons](#)

Session 6 – Limiting Reactants

[Cognito Video #25](#)

[Limiting Reactants FreeScienceLessons](#)

Session 7 – Concentration of Solutions

[Cognito Video #26](#)

[Concentration of Solutions FreeScienceLessons](#)

Week 4

Session 1 – [5.3 Practice Exam Questions](#)

Session 2- Metal oxides & Oxidation and Reduction in terms of Electrons

[Reaction of Metals with Oxygen FreeScienceLessons](#)

[Oxidation and Reduction in terms of Electrons](#)

[FreeScienceLessons](#)

[Cognito Video #32](#)

Session 3 - Metal Extraction & Reduction

[Cognito Video #31](#)

[Extraction of Metals FreeScienceLessons](#)

Session 4- pH scale and Neutralisation

[Cognito Video #29](#)

Session 5 – Neutralisation and Making a Salt RP

[Required Practical 1 FreeScienceLessons](#)

[Malmesbury Education Video](#)

Session 6 - Titration RP

[Carrying out a Titration FreeScienceLessons](#)

[Malmesbury Education RP](#)

[Titration Calculations FreeScienceLessons](#)

Session 7- Strong & Weak Acids

[Strong and Weak Acids FreeScienceLessons](#)

Week 5

Session 1- Electrolysis Molten Ionic Compounds

[Introducing Electrolysis FreeScienceLessons](#)

[Cognito Video #33](#)

Session 2- Using Electrolysis to extract Metals

[Cognito Video #34](#)

[Electrolysis of Aluminium Oxide FreeScienceLessons](#)

Session 3 – Electrolysis of Aqueous Ionic Compounds and RP

[Cognito Video #35](#)

[Malmesbury Education Required Practical](#)

Session 4- [5.4 Practice Exam Questions](#)

Session 4- Exothermic & Endothermic Reactions and RP

[Cognito Video #36](#)

[Malmesbury Education Required Practical](#)

Session 5- Reaction Profiles & The Energy Change of Reactions

[Cognito Video #37](#)

[Bond Energy Calculations 1 FreeScienceLessons](#)

[Bond Energy Calculations 2 FreeScienceLessons](#)

Session 5 – [5.5 Practice Exam Questions](#)

Session 6 - Calculating Rates of Reaction

[Mean Rate of Reaction FreeScienceLessons](#)

[Using Tangents to Determine Rate FreeScienceLessons](#)

[Cognito Video #48](#)

Session 7 - Factors which Affect Rate of Reaction, Collision Theory & Activation Energy

[Cognito Video #40](#)

[Effect of Concentration on Rate FreeScienceLessons](#)

[Effect of Surface Area on Rate FreeScienceLessons](#)

[Effect of Temperature on Rate FreeScienceLessons](#)

Week 6

Session 1 – Required Practical 11

[Malmesbury Education – disappearing cross](#)

[Malmesbury Education – collecting a gas](#)

Session 2 – Catalysts

[Catalysts FreeScienceLessons](#)

Session 3 – Reversible Reactions, Equilibrium – effect of changing conditions

[Reversible Reactions FreeScienceLessons](#)

[Cognito Video #41](#)

Session 4 – Effect of changing temp, pressure, concentration on equilibrium

[Cognito Video #42](#)

[Temperature and Reversible Reactions FreeScienceLessons](#)

[Concentration and Reversible Reactions FreeScienceLessons](#)

[Pressure and Reversible Reactions FreeScienceLessons](#)

Session 5 – [5.6 Practice Exam Questions](#)

Session 6 – Crude Oil, Hydrocarbons and Alkanes

[Crude Oil and Hydrocarbons FreeScienceLessons](#)

[Cognito Video #51](#)

Session 7 - Fractional Distillation

[Fractional Distillation FreeScienceLessons](#)

[Cognito Video #53](#)

Week 6

Session 1 – Properties of Hydrocarbons and Combustion

[Properties of Hydrocarbons FreeScienceLessons](#)

[Combustion of Hydrocarbons FreeScienceLessons](#)

[Cognito Video #44](#)

Session 2 – Cracking and Alkenes

[Cracking FreeScienceLessons](#)

[Cognito Video #46](#)

Session 3 – [5.7 Practice Exam Questions](#)

Session 4- Identification of Metal Ions

[Flame Tests FreeScienceLessons](#)

[Metal Hydroxide Precipitates FreeScienceLessons](#)

Session 5 – Identification of Non-Metal Ions

[Identifying Non-Metal Ions FreeScienceLessons](#)

[Cognito Video #65](#)

Session 6 – [5.8 Practice Exam Questions](#)

Session 7 – Composition of the Earth's Atmosphere and
Evolution of the Atmosphere

[The Atmosphere FreeScienceLessons](#)

[Cognito Video #52](#)

Week 7

Session 1 - [5.9 Practice Exam Questions](#)

Session 2- Using Earth's Resources and Sustainable Development

[Using the Earth's Resources FreeScienceLessons](#)

Session 3 - Potable Water

[Potable Water FreeScienceLessons](#)

[Cognito Video #56](#)

Session 4– Waste Water Treatment

[Waste Water Treatment FreeScienceLessons](#)

[Cognito Video #57](#)

Session 5 – The Haber Process

[The Haber Process FreeScienceLessons](#)

[Cognito Video #76](#)

Session 46– Production and Uses of Fertilisers

[NPK Fertilisers FreeScienceLessons](#)

Session 5 - 5.10 [Practice Exam Questions](#)