Topic Lists for Science

You can be tested on any of the content from Paper 1. Key component knowledge to focus on for the PPE in November is listed below.

	Combined Science	Separate Science
Biology	**BOLD indicates additional higher content** • Pathogens • DNA structure • Extracting DNA • Human Genome project • Enzymes and temperature • Preparing an onion slide for microscope • Light vs. Electron microscopes • Non communicable diseases / **CHD** • BMI • Osmosis • Selective breeding / **Genetic modification** • Immune system • **Cells** • **Antibiotics** • **Stem cells** • **Mitosis** • **Enzymes**	• The eye • Non-communicable diseases / CHD • BMI / Hip ratio • Osmosis (including practical) • Sexual / asexual reproduction • Agar method • Food tests • Pathogens • Immune system • Antibiotics • Stem cells • Mitosis • Inheritance / Genetic disorders • Evolution • Genetic modification • Enzymes • DNA structure • Human Genome Project

Chemistry	• Atomic Structure
	  • The Periodic Table
	  • Covalent Bonding and types of substances, structures
	  • Calculations involving masses
	  • Acid and Alkalis
	  • Electrolysis and core practical
		• Transition metals and Corrosion (H&F
		• Atom economy and percentage yield (H&F)
		• Factors that affect dynamic equilibrium (H only)

	• States of Matter • Separating mixtures • Core practical – Making a salt • Obtaining and using metals. • Reverse reactions, Transition metals, alloys and corrosion – ores & • Life cycle assessment and recycling • Reactivity.	• Titrations (H&F) and titration calculations (H only) • Alloys (F only)
Physics	• Acceleration • **Trolley – core practical** • **Newton's Laws** • **Momentum** • Non-renewable energy • Renewable energy • Refraction • Longitudinal v transverse waves • Electromagnetic waves • Order of colours of light • Wave speeds • Background radiation • Types of radiation • Radiation and decay • Half life • Using radioactivity • Energy stores equations (GPE & KE) • Energy dissipation **Bold indicates Higher content only**	<u>Extra content for Triple Science</u> • Fusion v fission • **Nuclear reactors (Higher)** • **Red shift (Higher)** • **CMB radiation (Higher)** • **Cosmic background radiation (Higher)**