




Year 11 Combined Science – Main Topic Overview

This list contains the main topics which will be covered in each paper of the GCSE. This is to help you focus your revision on the areas you are finding the most difficult. Not everything that needs to be covered will be on this list, just the main concepts. For a more detailed specification go to:




<https://qualifications.pearson.com/en/qualifications/edexcel-gcses/sciences-2016.html>

*are topics which will appear on both papers




Biology Paper 1 – Tuesday 14th May

Section in Revision Guide	Topic			
Section 1*	Cell Structure (Plants cells, animal cells, bacteria)			
Section 1*	Specialised cells			
Section 1*	Microscopes			
Section 1*	Enzymes			
Section 1*	Osmosis and diffusion			
Section 2	Mitosis			
Section 2	Stem cells			
Section 2	Neurons and reflex arcs			
Section 3	Meiosis			
Section 3	DNA			
Section 3	Inheritance			
Section 4	Natural selection			
Section 4	Evolution			
Section 4	Classification			
Section 4	Selective breeding and genetic engineering			
Section 5	Pathogens			
Section 5	Cardiovascular disease and obesity			
Section 5	Defending against pathogens (antibodies)			
Section 5	Immunisation			




Chemistry Paper 1 – Thursday 16th May

Section in Revision Guide	Topic			
Section 11	States of matter			
Section 11	Mixtures and separation			
Section 11	Chromatography and distillation			
Section 10*	Structure of the atom and isotopes			
Section 10*	Elements and the periodic table			
Section 10*	Electron configurations			
Section 10*	Ionic bonding and properties of ionic compounds			
Section 10*	Covalent bonding and simple covalent molecules			
Section 10*	Allotropes of carbon and giant covalent structures			
Section 10*	Relative formula mass			
Section 10*	Moles			
Section 12	Acids and bases (strength)			
Section 12	Reactions of acids			
Section 12	Production and Properties of salts			
Section 12	Electrolysis			
Section 13	Reactivity series and displacement reactions			
Section 13	Obtaining metals from ores (iron and aluminium)			
Section 13	Reversible reactions and equilibria			
Section 13	Dynamic Equilibrium and the Haber Process			




Physics Paper 1 – Wednesday 22nd May

Section in Revision Guide	Topic			
Working Scientifically*	Units, prefixes and rearranging equations			
Section 17	Vectors and scalars			
Section 17	Speed and Acceleration			
Section 17	Speed/time and Distance/time graphs			
Section 17	Forces			
Section 17	Newton's Laws			
Section 17	Momentum			
Section 17	Stopping distances and crash safety			
Section 17	Kinetic Energy			
Section 17	Gravitational Potential Energy			
Section 17	Efficiency			
Section 17	Renewable and non-renewable energy sources			
Section 18	Describing and measuring waves			
Section 18	Refraction and Reflection			
Section 18	The Electromagnetic spectrum – uses and dangers			
Section 19	Types of Nuclear radiation			
Section 19	Alpha, beta-, beta+ and gamma decays			
Section 19	Half-life			
Section 19	Radioactive safety and dangers			




Biology Paper 2 – Monday 7th June

Section in Revision Guide	Topic			
Section 1*	Cell Structure (Plants cells, animal cells, bacteria)			
Section 1*	Specialised cells			
Section 1*	Microscopes			
Section 1*	Enzymes			
Section 1*	Osmosis and diffusion			
Section 6	Photosynthesis and it's limiting factors			
Section 6	Transport in plants			
Section 6	Stomata and transpiration			
Section 7	Hormones			
Section 7	The menstrual cycle			
Section 7	Homeostasis			
Section 7	Diabetes			
Section 8	Exchanging chemicals in animals			
Section 8	The lungs			
Section 8	Blood and blood vessels			
Section 8	The heart			
Section 8	Respiration			
Section 9	Defining and Investigating ecosystems			
Section 9	Interactions between organisms			
Section 9	Biodiversity and conservation			
Section 9	Carbon cycle			
Section 9	Water cycle			
Section 9	Nitrogen cycle			

Chemistry Paper 2 –Wednesday 12th June

Section in Revision Guide	Topic			
Section 10*	Structure of the atom and isotopes			
Section 10*	Elements and the periodic table			
Section 10*	Electron configurations			
Section 10*	Ionic bonding and properties of ionic compounds			
Section 10*	Covalent bonding and simple covalent molecules			
Section 10*	Allotropes of carbon and giant covalent structures			
Section 10*	Relative formula mass			
Section 10*	Moles			
Section 14	Alkali Metals (Group 1)			
Section 14	Halogens (Group 7)			
Section 14	Noble Gasses (Group 0)			
Section 15	Rates of reaction			
Section 15	Investigating and calculating rates of reaction			
Section 15	Collision Theory			
Section 15	Catalysts			
Section 15	Endothermic and exothermic reactions			
Section 15	Bond energies			
Section 16	Fractional distillation			
Section 16	Hydrocarbons and cracking			
Section 16	The Atmosphere and pollutants			
Section 16	Greenhouse effect and climate change			

Physics Paper 2 – Friday 14th June

Section in Revision Guide	Topic			
Working Scientifically*	Units, prefixes and rearranging equations			
Section 20	Energy transfers			
Section 20	Work done and power			
Section 20	Forces and vector diagrams			
Section 21	Current			
Section 21	Potential difference			
Section 21	Resistance and components			
Section 21	Series and parallel circuits			
Section 21	Energy and power in circuits			
Section 21	Fuses and electrical safety			
Section 22	Magnets and magnetic fields			
Section 22	Electromagnetism			
Section 22	Motor effect			
Section 22	Electromagnetic induction			
Section 23	Density			
Section 23	Specific heat capacity			
Section 23	Specific latent heat			
Section 23	Particle motion in Gases			
Section 23	Elasticity			