Summer 2023 Combined Science GCSE AQA

Paper 1			**CGP pages:**
Biology	**Cells**	*Eukaryotic and prokaryotic cells* *Microscopes* *Differentiation and Specialisation* *Stem cells* *Cell cycle and mitosis* *Diffusion, osmosis, active transport (**Req Prac**)*	**Foundation 17 – 39** **Higher 17-39**
	Organisation	*Digestion* *Food Tests (**Req Prac**)* *Enzymes (**Req Prac**)* *Lungs* *Circulatory System* *Cardiovascular disease* *Non-communicable disease and risk factors* *Cancer* *Transpiration and stomata*	**Foundation 40-71** **Higher 40-74**
	Infection	*Communicable disease* *The 7 examples of disease* *Immune response* *Vaccination* *Drug trials*	**Foundation 72-84** **Higher 74-88**
	Bioenergetics	*Photosynthesis* *Measuring the rate of photosynthesis (**Req Prac**)* *Respiration* *Metabolism*	**Foundation 85-96** **Higher 89-103**
Chemistry	**Atomic Structure**	*Atoms, elements, compounds, isotopes* *Formulas and equations* *Separating mixtures* *History of the atom* *Electronic structure* *Development of the periodic table* *Metals and non-metals* *Group 1/7/0* Tran	**Foundation 161-189** **Higher 173-201**
	Bonding	*Ions and ionic compounds* *Covalent bonding* *Polymers* *Simple and giant covalent compounds* *Allotropes of carbon* *Metallic bonding* *States of matter*	**Foundation 190-208** **Higher 202-221**
	Quantitative	*Relative formula mass* *Conservation of mass* *Concentrations and solutions* **Higher only** *Moles* *Limiting Reactants*	**Foundation 72-84** **Higher 74-88**
	Chemical Change	*Acids and bases* *Making salts (**Req Prac**)* *Metals and reactivity* *Extracting metals*	**Foundation 215-227** **Higher**

		*Electrolysis (**Req Prac**)*	**231-246**
	Energy Change	*Exothermic and endothermic reactions* *Measuring energy changes (**Req Prac**)* *Energy profiles* **Higher only** *Bond energies*	**Foundation** **228-232** **Higher** **247-252**
Physics	**Energy**	*Energy stores and transfers* *Work done* *Specific Heat Capacity (**Req Prac**)* *Power* *Conduction and convection* *Reducing unwanted transfers and efficiency* *Energy resources – renewable and non-renewable*	**Foundation** **283-304** **Higher** **297-315**
	Electricity	*Current and charge* *Resistance and Ohms Law* *Resistance of a wire (**Req Prac**)* *I-V characteristics* *Series and parallel circuits* *LDR and thermistors* *Electricity in the home (3 pin plug)* *Power* *National Grid*	**Foundation** **305-325** **Higher** **316-333**
	Particle Model	*Particle model of solid/liquid/gas* *Density (**Req Prac**)* *Internal energy and change of state* *Specific Latent Heat* *Particle motion in gases*	**Foundation** **326-333** **Higher** **334-340**
	Atomic Structure	*Development of atomic model (also covered in C1)* *Isotopes* *Ionising Radiation* *Nuclear equations* *Half life* *Irradiation and contamination*	**Foundation** **334-346** **Higher** **341-352**

Paper 2			**CGP pages:**
	Homeostasis	*Nervous system* *Reaction time (**Req Prac**)* *Hormonal system* *Blood glucose* *Diabetes*	Foundation 97-112 Higher 104-121

Biology		*Puberty and Menstrual Cycle* *Contraception and fertility* **Higher only** *Adrenalline and thyroxine (negative feedback*	
	Inheritance	*Asexual and Sexual reproduction* *DNA and chromosomes* *Meiosis* *Genetic diagrams (punnet squares and family trees)* *Cystic Fibrosis and Polydactyly* *Embryo Screening* *Mutations and natural selection* *Evolution and evidence from fossils* *Antibiotic resistant bacteria* *Selective Breeding* *Genetic Engineering* *Classification*	**Foundation 113-140** **Higher 122-150**
	Ecology	*Describing ecosystems* *Competition* *Abiotic and Biotic factors* *Adaptations* *Food Chains* *Using quadrats (**Req Prac)*** *Water Cycle and Carbon Cycle* *Biodiversity and Waste management* *Global warming* *Deforestation*	**Foundation 141-160** **Higher 151-172**
Chemistry	**Rates of Reaction**	*Collision theory* *Factors affecting rate of reaction* *Measuring rate of reaction (gas syringe and disappearing cross **Req Prac)*** *Analysing graphs of rates and calculating rate* *Reversible reactions* **Higher only** *Le Chatelier's principle and dynamic equilibrium*	**Foundation 233-245** **Higher 253-266**
	Organic	*Hydrocarbons and crude oil* *Fractional distillation* *Cracking*	**Foundation 246-253** **Higher 267-272**
	Chemical Analysis	*Purity and formulations* *Testing for gases (oxygen, hydrogen, chlorine and carbon dioxide)* *Chromatography (**Req Prac**)*	**Foundation 254-261** **Higher 273-277**
	Atmosphere	*Changes in the atmosphere* *Climate change and greenhouse effect* *Carbon footprint* *Pollutants*	**Foundation 262-269** **Higher 278-285**

	Using Resources	*Finite and renewable resources* *Sustainability* *Recycling* *Life Cycle Assessment - LCA* *Potable water (**Req Prac**)* *Wastewater treatment*	**Foundation** **270-282** **Higher** **286-296**
Physics	**Forces**	*Contact and non-contact forces* *Scalar and Vector quantities* *Calculating resultant force and work done* *Elasticity and Hooke's Law (**Req Prac**)* *Speed and velocity* *Acceleration* *Distance-time and velocity-time graphs* *Terminal velocity* *Newton's Laws* *F=ma (**Req Prac**)* *Stopping distances and reaction time* **Higher only** *Momentum calculations*	**Foundation** **347-370** **Higher** **353-370**
	Waves	*Wave features* *Transverse and longitudinal waves* *Wave speed* *Wave Equation* *Investigating waves (**Req Prac**)* *Refraction* *Electromagnetic Spectrum – uses and dangers* *Investigating IR radiation (**Req Prac**)*	**Foundation** **371-385** **Higher** **381-396**
	Magnetism	*Permanent and induced magnets* *Magnetic fields* *Electromagnets* *Solenoids* **Higher only** *Motor effect* *Left hand rule*	**Foundation** **386-391** **Higher** **397-405**