

Year 10 – GCSE SCIENCE Programme of Study

Term	Autumn		Spring		Summer	
Biology	GCSE Infection & Response		GCSE Bioenergetics		GCSE Homeostasis & Response	
	Communicable diseases & pathogens in plants & humans; human defences; vaccinations; antibiotics & painkillers; antibiotic resistance; drug discovery & ethics; production & uses of monoclonal antibodies (T); detection & identification of plant diseases (T); plant defence responses (T).		Aerobic & anaerobic respiration; effect of exercise on respiration; uses of fermentation; photosynthesis; limiting factors; uses of glucose including testing for starch; metabolism. Role of plant tissues and organs in photosynthesis RP - Effect of light intensity on photosynthesis		Homeostasis; structure and function of the nervous system; the brain (T); the eye (T); control of body temperature (T); human endocrine system; control of blood glucose concentration; maintaining water and nitrogen balance in the body (T); hormones in human reproduction; contraception; use of hormones to treat infertility (H); negative feedback (H); plant hormones including tropism and uses of plant hormones (T). RP - Reaction time; RP - Germination (T)	
Assessment	Half-term 1: Organisation End of Unit Test	Half-term 2: Infection & Response Mid-Topic Test	Half-term 1: Infection & Response End of Unit Test	Half-term 2: Bioenergetics End of Unit Test	Year 10 Paper 1 Mock Exams	Half-term 2: Homeostasis Mid-Topic Test
Chemistry	GCSE Quantitative Chemistry		GCSE Chemical Changes		GCSE Energy Changes	GCSE The Rate & Extent of Chemical Change
	Relative formula mass; percentage mass of elements; moles; conservation of mass; uncertainty; reacting masses; limiting reactants; concentration; titrations (T); gas volumes (T); atom economy (T); percentage yield (T)		Reactions of metals; reactivity series; metal extraction; oxidation & reduction; ionic & half equations; neutralisation; acids; electrolysis RP - Making Salts RP - Neutralisation (T) RP - Electrolysis		Exothermic & endothermic reactions; reaction profiles; bond energy calculations; hydrogen & fuel cells (T) RP - Temperature Change	Measuring the rate of reaction; collision theory; factors that affect the rate of reaction; reversible reactions & equilibrium; Le Chatelier's principle (H + T) RP - Rates of Reaction
Assessment	Half-term 1: Structure & Bonding End of Unit Test	Half-term 2: Quantitative Chemistry End of Unit Test	Half-term 1: Chemical Changes Mid-Topic Test	Half-term 2: Chemical Changes End of Unit Test	Year 10 Paper 1 Mock Exams	Half-term 2: Rates End of Unit Test
Physics	GCSE Electricity		GCSE Atomic Structure & Radioactivity		GCSE Forces Part 1 <i>finished in Autumn Term Y11</i>	
	Static charge (T); charge flow; current, potential difference & resistance in series & parallel circuits; Ohmic & non-ohmic conductors; combining resistors; National Grid. RP - Resistance RP - I-V Characteristics		The structure of an atom; mass number, atomic number + isotopes; development of the model of the atom; radioactive decay & nuclear radiation (alpha, beta, gamma, neutron); nuclear equations; half-life; contamination + irradiation; background radiation (T); uses of nuclear radiation (T); nuclear fission (T); nuclear fusion (T).		Scalar & vector quantities; contact & non-contact forces; gravity; resultant forces; work done; elasticity; elastic potential energy; moments, levers + gears (T); pressure in solids & fluids (T). RP - Hooke's Law	
Assessment	Half-term 1: Electricity Mid-Topic Test	Half-term 2: Electricity End of Unit Test	Half-term 1: Atomic Structure Mid-Topic Test	Half-term 2: Atomic Structure End of Unit Test	Year 10 Paper 1 Mock Exams	Half-term 2: Forces Mid-Topic Test Part 1

RP – Required Practical

T – Triple Content Only

H – Higher tier Only

Biology

Chemistry

Physics