



Key Stage 4 Science Curriculum Maps

	AUTUMN															SPRING											SUMMER											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Year 10	Topic – Cells Assessment – Nov test, Yr 10 Exam, Yr 11 mock S –Cells structure, stem, mitosis, chromosomes, diffusion, osmosis, exchange surfaces P –microscopy Sk – microscopy, analysis, conclusions						Topic – Organisation Assessment – EOTT, Yr 10 Exam, Yr 11 mock S –Enzymes, Digestion, ventilation, circulatory system, NC disease, plant organisation P – Food tests, Enzyme investigation Sk – Practical skills, analysis, conclusions						Topic – Atomic structure (Nuclear) Assessment – EOTT, Yr 10 Exam, Yr 11 mock S –Atomic structure, isotopes, equations, types of radiation, half-life, uses of P – safety, testing properties of radioactive sources Sk –observations and analysis					Topic – Infection Assessment – EOTT, Yr 10 Exam, Yr 11 mock S –C disease (bacterial, fungal, viral, protist) immune response, vaccination, drug trialling P – Aseptic technique, Sk – carry out aseptic technique, analysis & evaluation					Topic – Periodic table Assessment – EOTT, Yr 10 Exam, Yr 11 mock S –Atomic structure, elements, compounds, mixtures chromatography, distillation. P – chromatography, Sk – equations, evaluate evidence					Topic – Bioenergetics Assessment – EOTT, Yr 11 mock S – photosynthesis, respiration, limiting factors, metabolism, effect of exercise P – methodology of how to determine the rate Sk – observations, conclusions						Topic – Rates Assessment – EOTT, Yr 11 March mock S –factors, measuring rates, reversible P – Thiosulphate investigation Sk – graph interpretation, tangents				
	Topic – Bonding Assessment – EOTT, Yr 10 Exam, Yr 11 mock S – ions, types of bond, states, polymers, C structures Sk – balancing equations, linking structure to properties						Topic – Energy Assessment – EOTT, Yr 10 Exam, Yr 11 mock S – stores, E_k/E_p , elastic, transfers, energy resources P – SHC, Sk – using data to analyse suitability of resources, equation handling. Efficiency and its implications						Topic – Matter Assessment – EOTT, Yr 10 Exam, Yr 11 mock S – particle model, density, internal energy, Latent heat P – density investigation Sk – observing/analysing, describing					Topic – Quantitative Assessment – EOTT, Yr 10 Exam, Yr 11 mock S – formula mass, conservation, concentrations P – Sk – manipulating formulae.					Topic – Electricity Assessment –EOTT, Yr 11 mock S – symbols, resistance, series/parallel, AC/DC, National grid, transformers P – Ohms law Sk – fault finding, manual set up of circuits.					Topic –Energy changes Assessment – EOTT, Yr 11 mock S –Endo/Exothermic, measuring P – Sk – interpreting reactions from energy changes/observations						Topic – Chemical change Assessment – EOTT, Yr 11 March mock S –Acids, bases, salts, reactivity series, electrolysis P – electrolysis Sk – analysis of observations/data, decision making based on evidence				

YEAR 11	Topic – Forces Assessment – EOTT, Yr 11 March mock S –vector/scalar, Elasticity acceleration, terminal velocity, Newtons laws, braking distance P – springs investigation Sk – interpreting graphs, re-arranging formulae	Topic – Chemical analysis Assessment – S – purity, chromatography, testing gases, P – methodology of testing gases Sk – interpreting chromatograms	Topic – Inheritance Assessment – EOTT, Yr 11 March mock S – DNA, meiosis, chromosomes, disorders, family trees, mutations, evolution, resistant bacteria, selective breeding, fossils, classification Sk – reading family trees, classifying organisms	Topic – Organic Assessment – S –Hydrocarbons, fractional distillation, cracking P – fractional distillation process Sk – application/interpreting diagrams/graphs	Topic – Ecology Assessment – S –competition, biotic/abiotic, adaptations, chains/webs, recycling, biodiversity, human impact P – carry out quadrats/transects Sk – analysing/interpreting data,	GCSE exams
	Topic – Homeostasis Assessment – EOTT, Yr 11 March mock S – Nervous system, reflexes, endocrine system, Glucose regulation, fertility, P – testing reaction time Sk – evaluating evidence	Topic – Magnets Assessment – EOTT, Yr 11 March mock S – attraction. repulsion, induction, electromagnetism, motors P – left/right hand rules Sk – application	Topic – Waves Assessment – EOTT, Yr 11 March mock S – types of, frequency, period, EM waves, IR radiation P – ripple tank, refraction, (reflection), Lesley cube Sk – formulae manipulation, observations and evaluation of data	Topic – Resources Assessment – S – Finite vs infinite, Recycling, life cycle, water and waste Sk –Assess the factors that affect the lifecycle of resource. Discuss the importance of recycling		

Note – The topics taught in Yr10 and Yr11 are consistent, however topics are interchangeable due to 2/3 teacher splits and to necessitate the management of equipment.

Triple scientists will follow a similar pattern of teaching to the table above, albeit split between 3 specialist teachers. Physics also includes an extra topic (Space)