KS4 Separate Sciences Curriculum map (red to show difference to CT)

		Terms 1+2	Terms 3+4	Terms 5+6
Year 9 (Transition year)	**Biology**	**Cells structure + transport and Cell division** Plant, animal, bacterial cells, movement of substances, stem cells, microscopes.	**Organisation (digestive system)** Cells to organ systems, food chemistry, enzymes, food tests.	**Organisation (Circulatory) and Communicable diseases** Circulatory system, heart disease, diseases & pathogens, human defences, plant disease.
	Chemistry	**Atomic structure and the periodic table** History of atomic model and periodic table, atom structure, trends in group 1 & 7 groups, transition metals	**Chemical analysis and Earth's atmosphere** Mixtures, pure substances, tests for gases & ions, history of earth's atmosphere, climate change.	**The Earth's resources + Using resources** Finite and infinite resource, safe water, extracting metals from ores, recycling, alloys, fertilisers, rusting, ammonia.
	Physics	**Forces and motion** Vector & scalar quantities, motion graphs, elasticity, momentum, resultant forces. Pressure, moments, safety, upthrust, flotation.	**Molecules and matter** Density, changes of state, calculations for heating and changing state, pressure and temperature.	**Radioactivity** Isotopes, discovery of the nucleus, radiation uses & hazard, nuclear decay equations, nuclear energy.
	Skills	*Calculations, apparatus, measurements, observations, terminology, models, development of theories, data analysis and transfer, evaluation.*	*Apparatus, methods, risk assessments, predictions, models, measurements, data analysis and transfer, conclusions, evaluation of methods.*	*Dissection, observation, models, personal + social + environmental implications, apparatus, theory development, risk assessment, units, peer review.*
Year 10	**Biology**	**Non communicable disease and treatment of disease** Smoking, alcohol, cancer, vaccinations, antibiotics, drug development, monoclonal antibodies	**Bioenergetics** Photosynthesis and links to agriculture, limiting factors, respiration with links to exercise and fermentation in plants.	**Biological responses + Homeostasis in action** The nervous and endocrine systems, growth, adolescence, menstruation, fertility, response to stimuli, eye and brain, kidney function, body temperature.
	Chemistry	**Structure and bonding** States of matter, types of bonding and structures, molecular structures and ions, nanoparticles	**Chemical calculations** Relative masses and moles, equations and calculations, linking mass to balanced equations, titrations and yield.	**Crude oil and Chemical Changes + organic reactions and polymers.** Fuels, fractional distillation of oil, reactivity series, metal reactions, acids and alkalis, polymers, organic reactions.
	Physics	**Energy** Conservation, transfer and store of energy, heat transfer, energy calculations, insulation, radiation.	**Energy resources and Waves** Renewable & non-renewable energy resources, environmental issues, evaluation of resources.	**Electricity** Circuits, components, domestic electricity, safety, National Grid, appliances and efficiency, statics
	Skills	*Calculations, data analysis & transfer, peer review, developing theories, personal + social impact, correlation and causation.*	*Calculations, evaluations, data analysis & transfer, methods, apparatus, graph skills, personal + social + environmental impact.*	*Apparatus, methods, evaluation, conclusions, units, predictions, risk assessment, terminology, social + personal impact, data analysis & transfer.*
Year 11	**Biology**	**Genetics and reproduction** Reproduction in organisms, cell division, genetics and engineering, evolution, classification. DNA synthesis, history of genetics, mutation, cloning.	**Ecology** Ecosystems, adaptations, natural selection, carbon & water cycles, pollution, decomposition, biomass, food security/sustainability.	**Examinations**
	Chemistry	**Electrolysis and Energy changes** Electrolysis in industry (e.g. aluminium), reactions that emit and absorb heat, bonding energy, batteries + cells.	**Rates and equilibrium** Collision theory, effect of temperature, concentration and pressure on rates of reaction.	**Examinations**
	Physics	**Waves and Light** Properties of wave, reflection & refraction, electromagnetic spectrum uses & hazards, light behaviour, colour and lenses.	**Electromagnetism + Space** Magnetic fields, motors, electromagnets and calculations, generators, transformers, stars, universe start and fate, solar system formation.	**Examinations**
	Skills	*Theory development, environmental impact, units, calculations, peer review, evaluations, conclusion, data analysis & transfer, personal + social impact.*	*Environmental impact, measurements, units, observations, conclusions, evaluations, calculations, data analysis & transfer*	