Levenshulme High School – Curriculum Map – Science

		Term 1		Term 2		Term 3	
	No. of Weeks	8	7	6	6	5	7
Year 10 Combined Science	**Topic Title and NC link**	**Matter And Forces** *OCR Gateway Science specification - Combined Science A (9-1) - J250*	**Organism And Community Level Systems** *OCR Gateway Science specification - Combined Science A (9-1) - J250*	**Electricity, Magnetism, Waves and Radioactivity** *OCR Gateway Science specification - Combined Science A (9-1) - J250*	**Chemical reactions Predicting And Identifying Reactions And Products** *OCR Gateway Science specification - Combined Science A (9-1) - J250*	**Genes, Inheritance And Selection** *OCR Gateway Science specification - Combined Science A (9-1) - J250*	**Monitoring And Controlling Chemical Reactions** *OCR Gateway Science specification - Combined Science A (9-1) - J250*
	Pupils should know…	• The particle model • Changes of state • Motion • Newton's laws • Forces in action	• Coordination and control – the nervous system • Coordination and control – the endocrine system • Maintaining internal environments • Ecosystems	• Static and Charge • Simple circuits • Magnets and magnetic fields • Wave behaviour • The electromagnetic spectrum • Radioactivity	• Introducing chemical reactions • Energetics • Types of chemical reactions • Electrolysis • Predicting chemical reactions	• Inheritance • Natural selection and evolution	• Controlling reactions • Equilibria
	Pupils should be able to do…	**AO1 -Demonstrate knowledge and understanding of:** • scientific ideas • Scientific techniques and procedures. **AO2- Apply knowledge and understanding of:** • scientific ideas • Scientific enquiry, techniques and procedures. **AO3 - Analyse information and ideas to:** • interpret and evaluate • make judgements and draw conclusions • Develop and improve experimental procedures.	**AO1 -Demonstrate knowledge and understanding of:** • scientific ideas • Scientific techniques and procedures. **AO2- Apply knowledge and understanding of:** • scientific ideas • Scientific enquiry, techniques and procedures. **AO3 - Analyse information and ideas to:** • interpret and evaluate • make judgements and draw conclusions • Develop and improve experimental procedures.	**AO1 -Demonstrate knowledge and understanding of:** • scientific ideas • Scientific techniques and procedures. **AO2- Apply knowledge and understanding of:** • scientific ideas • Scientific enquiry, techniques and procedures. **AO3 - Analyse information and ideas to:** • interpret and evaluate • make judgements and draw conclusions • Develop and improve experimental procedures.	**AO1 -Demonstrate knowledge and understanding of:** • scientific ideas • scientific techniques and procedures. **AO2- Apply knowledge and understanding of:** • scientific ideas • scientific enquiry, techniques and procedures. **AO3 - Analyse information and ideas to:** • interpret and evaluate • make judgements and draw conclusions • develop and improve experimental procedures.	**AO1 -Demonstrate knowledge and understanding of:** • scientific ideas • scientific techniques and procedures. **AO2- Apply knowledge and understanding of:** • scientific ideas • scientific enquiry, techniques and procedures. **AO3 - Analyse information and ideas to:** • interpret and evaluate • make judgements and draw conclusions • develop and improve experimental procedures.	**AO1 -Demonstrate knowledge and understanding of:** • scientific ideas • scientific techniques and procedures. **AO2- Apply knowledge and understanding of:** • scientific ideas • scientific enquiry, techniques and procedures. **AO3 - Analyse information and ideas to:** • interpret and evaluate • make judgements and draw conclusions • develop and improve experimental procedures.
	Pupils should have remem bered/ be familiar …	• The atomic model, and that atoms are examples of particles. • The difference between atoms, molecules and compounds. • How density can be affected by the state materials are in. • The structure of matter and the similarities and differences between solids, liquids and gases. • The particle model and be able to use it to model changes in particle behaviour during changes of state. • The effect of temperature in the motion and spacing of particles and an understanding that energy can be stored internally by materials.	• The hierarchical organisation of multicellular organisms from cells to tissues to organs to systems to organisms. • Number of hormones including adrenaline and the male and female sex hormones. • About coordination and control (from B3.1) • The idea of a food web and the interrelationships associated with them and that variation allows living things to survive in the same ecosystem. They should also recognise that organisms affect their environment and are affected by it.	• Electron transfer leading to objects becoming statically charged and the forces between them. • Existence of an electric field	• Chemical symbols and formulae for elements and compounds. • Conservation of mass, changes of state and chemical reactions. • Combustion, thermal decomposition, oxidation and displacement reactions. • Definition of acids and alkalis in terms of neutralisation reactions. • Reactions of acids with alkalis to produce a salt and water and reactions of acids with metals to produce a salt and hydrogen. • Ionic solutions and solids. • The principles underpinning the Mendeleev Periodic Table; the Periodic Table: periods and groups; metals and non-metals; the varying physical and chemical properties of different elements.	• The idea of heredity as the process by which genetic information is passed from one generation to the next. • A simple model of chromosomes, genes and DNA. • That changes in the environment can leave some individuals, or even some entire species, unable to compete and reproduce leading to extinction.	• The action of catalysts in terms of rate of reaction. • The term surface area and what it means. • Representing chemical reactions using formulae and using equations.