Science – Y7

MAGHULL HIGH SCHOOL – CURRICULUM MAP

	Lessons Sequence					
TOPIC (S) **Particles and Solubility**	1. Particles in solids, liquids and gases 2. Changes of state 3. Pure substances and mixtures 4. Diffusion		5. Dissolving and solutions 6. Different solvents 7. Temperature and solubility 8. Filtration		9. Evaporation and distillation 10. Separating rock salt 11. Chromatography	
Knowledge & Skills development	- Draw the particle diagrams for a solid, liquid and gas - Describe how the particles are arranged in a solid, liquid and gas - Explain the behaviour of particles in a solid, liquid and gas - Evaluate the effectiveness of the particle model - identify the different state changes - investigate the temperature change during a change of state - describe and explain state changes using ideas about the particle model - to define a pure substance and a mixture - to identify a pure substance or mixture from particle diagrams - to describe how to identify pure substances or mixtures from melting and boiling points - to define diffusion - to draw particle models to describe diffusion - to identify examples of diffusion in everyday life - to define the solute, solvent and solution - to draw particle diagrams of the pure solute, solvent and solution - to describe what solubility is - give examples of some different solvents and where they are used			- to investigate how soluble solutes are in different solvents -to investigate how temperature affects solubility -to explain, using particle theory, why temperature affects solubility - to identify the apparatus needed for filtration - to carry out filtration of a mixture - to describe what type of mixture filtration will separate - describe when evaporation and distillation are used to separate mixtures - carry out distillation of a solution - Use 2 methods of separation in order to produce pure crystals of salt from rock salt - Identify what chromatography separates - Carry out chromatography to identify the colours in ink - Describe how chromatography is used in the food or forensics industry	
Assessment / Feedback Opportunities	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	AWOL assessment – formative teacher assessment in students books	Mid topic assessment – formative assessment	Homework topic quiz – formative assessment	End of topic assessment – teacher summative assessment
Cultural Capital	• •					
SMSC / Promoting British Values **(Democracy, Liberty, Rule of Law, Tolerance & Respect)**	• Listening to others during presentations • Working in groups during practicals or research tasks					

Reading opportunities	• Recommended Read: What's Chemistry All About? by Alex Frith (Author), Lisa Gillespie (Author), Adam Larkum (Illustrator) • Recommended Read: Science Bug: Separating Mixtures by Deborah Herridge (Author), Debbie Eccles (Author) • Various reading and comprehension activities embedded within scheme of work including current news articles
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly Particle, Solid, Liquid, Gas, Evaporation, Condensation, Sublimation, Solidify, Sublimation, Pure, Mixture, Boiling Point, Diffusion, Rate, Dissolve, Solute, Solvent, Solution, Solubility, Soluble, Separate, Filter, Distillation, Chromatography
Digital Literacy	SharePoint resources including topic quiz Possible use of excel to plot graphs and analyse data, PowerPoint, word, etc to present information, internet for research
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators
Careers	Materials Scientist, Physical Properties Chemist, Analytical Chemist, Health and Safety Specialist, Chemical Flavourist,, Hospital Pharmacist, Public Pharmacist, Experimental Chemist, Chemical Patent Lawyer, Chemical Engineer, Toxicologist, Distillery Blender