YEAR 8 SCIENCE

HALF TERM 1 & 2

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Chemical Reactions** **LESSON TOPIC QUESTION(S)**	1. Pyrotechnic Technician Career 2. Atoms, Elements and Compounds 3. Chemical and Physical Reactions 4. Word Equations 5. Conservation of Mass	6. Acids, Alkalis and the pH Scale 7. Testing pH 8. Neutralisation and Naming Salts 9. Antacid Investigation 10. Metals and Acids	11. Oxidation and Reduction 12. Salt (Reading) 13. Theral Decomposition 14. Exothermic and Endothermic Reactions
Knowledge & Skills Development	- State the definitions of atoms, elements and compounds - Identify atoms, elements and compounds using particle diagrams - Describe what happens to atoms in chemical reactions. - Explain why chemical reactions are useful. - Compare chemical reactions to physical changes. - Identify chemical and physical reactions from practical observations. - Identify reactants and products in word & symbol equations. - Write word & symbol equations to represent chemical reactions. - Represent practical observations using word & symbol equations. - Compare the properties of acids and alkalis. - Describe differences between concentrated and dilute solutions of an acid. - Use the pH scale to measure acidity and alkalinity. - Describe how indicators categorise solutions as acidic, alkaline, or neutral. - Identify the likely pH of a solution using experimental observations. - Describe how pH changes in neutralisation reactions. - State examples of useful neutralisation reactions.		- Design an investigation to find out which indigestion remedy is 'better'. - Compare the reactions of different metals with dilute acids. - Explain the test for hydrogen gas. - Describe what a salt is. - Predict the salts that form when acids react with metals or bases. - Present observations from the practical investigation as word equations. - To define oxidation and reduction in terms of loss or gain of oxygen - Predict products of combustion reactions. - Categorise oxidation reactions as useful or not. - Identify decomposition reactions from word equations. - Use a pattern to predict products of decomposition reactions. - Describe the characteristics of exothermic and endothermic changes. - Classify changes as exothermic or endothermic. - Calculate the temperature change and make a conclusion in a range of familiar exothermic and endothermic changes.
Assessment / Feedback Opportunities	**Formative Assessment** Teacher questioning Quizzes Mid topic assessment		**Summative assessment** End of topic assessment
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly Atoms, Elements, Compound, Chemically, Molecules, Physical, Chemical, Melting, Evaporating, Condensation, Freezing, Compound, Rearrange, Properties, Reactant, Product, Acid, Base, Alkali, Indicator, Scale, Universal, Neutralisation, Neutral, Antacids, Indigestion, Symptoms, Treatment, Reactivity, Reactant, Product, Salt, Excess, Oxidation, Reduction, Observation, Thermal, Decomposition, Exothermic, Endothermic		
Literacy/Reading	Dedicated reading lesson		

Opportunities	Subject specific vocabulary introduced before reading of related texts Word etymology from Latin and Greek roots Reading of simple and complex sentences, paragraphs, articles Scientific writing including structuring methods, comparisons and evaluations
Cross Curricular Themes	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators, significant figures
Personal Development (Including British Values, RSE, Citizenship)	None
Career Opportunities	Dedicated careers lesson at start of topic Materials Scientist, Physical Properties Chemist, Analytical Chemist, Health and Safety Specialist, Chemical Flavourist, Hospital Pharmacist, Public Pharmacist, Experimental Chemist