YEAR 7 SCIENCE

HALF TERM 4 & 5

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Atoms, Elements and Compounds** **LESSON TOPIC QUESTION(S)**	1. Chemical Engineer Career 2. Elements, Compounds and Mixtures 3. Discovering Elements (Reading) 4. Physical Properties of Elements 5. Joining Atoms and Naming Compounds	6. Metals and Non-Metals 7. Metals and Non-Metals Investigation 8. Current Model of the Atom 9. Development of the Atomic Model 10. The Periodic Table	11. History of the Periodic Table 12. Electron Configuration 13. Group 1 Elements 14. Group 0 Elements 15. Group 7 Elements
Knowledge & Skills Development	- State what an element is - State what a compound is. - State what a mixture is - Identify elements, compounds and mixtures from names, formulae and particle diagrams - Use observations to describe the properties of common elements - Explain how elements are classified as metals and non-metals. - Use patterns to classify an element as a metal or non-metal. -Use observations about materials to decide if they are metals or non-metals. - Write the chemical names for some simple compounds. - Write and interpret chemical formulae. - Describe elements and compounds using familiar symbols and formulae. - Explain why a compound has different properties to the elements in it. - Describe similarities and differences between iron, sulphur, and iron sulphide.		- Describe the plum pudding model of the atom. - Explain how scientists discovered the nucleus of the atom. - Describe the structure of the current model of the atom - State the properties of all the subatomic particles - Draw electron configurations of the first 20 elements. - Use patterns to predict properties of elements. - Compare patterns in properties in the groups and periods of the Periodic Table. - Use trends shown by numerical data to predict missing values. - Describe how Mendeleev devised the Periodic Table. - Use the chemical and physical properties of different elements to arrange them according to atomic masses and properties. - Interpret data to describe patterns in properties of the Group 1 elements. -Use patterns to predict properties of Group 1, 0 and 7 elements. - Record observations about how Group 1 metals react with water. -Draw conclusions on the properties and trends of Group 0 and 7 elements based on experimental and secondary data.
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 Atom, Molecule, Element, Compound, Mixture, Physical, Property, Metal, Malleable, Ductile, Formulae, Symbol, Model, Nucleus, Scatter, Proton, Neutron, Electron, Shell, Period, Group, Column, Row, Organise, Alkali Metals, Reactive, Noble, Unreactive		
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, Chemical Patent Lawyer, Chemical Engineer