YEAR 9 SCIENCE: CHEMISTRY

Half Term 3 & 4

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Atomic Structure and the Periodic Table** **LESSONS**	1. Atoms, Elements, Compounds and Mixtures 2. Development of the model of the atom 3. Subatomic particles	4. Electron structure 5. The periodic table 6. Development of the periodic table 7. Metals and non-metals	8. Group 0 9. Group 1 10. Group 7 11. Transition metals

Knowledge & Skills Development	• Understanding of how particles are arranged in different types of substances • Knowledge of the contributions of JJ Thompson, Earnest Rutherford, Niels Bohn and James Chadwick towards the current model of the atom • Knowledge of the mass and charge of atoms, ions and sub-atomic particles • The ability to complete electronic structure diagrams for the first 20 elements • Understanding of how the current periodic table is structure and using this to determine properties of elements	• Knowledge of Mendeleev's contributions to the current format of the periodic table • Understanding of how the reactions of elements depend on their electronic structure • Knowledge of the difference between metals and non-metals in terms of their physical characteristics and chemical properties. • Knowledge of chemical trends within groups 0, 1 and 7 of the periodic table • Comparison between group 1 metals and transition metals in terms of their chemical properties and physical characteristics • Knowledge of the ions and compounds formed by specific transition metals
Assessment / Feedback Opportunities	**Formative Assessment** Teacher questioning Quizzes Exam style questions	**Summative assessment** End of topic assessment Exam questions in future end of topic assessments to assess recall
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest Atom, Element, Compound, Mixture, Proton, Neutron, Electron, Sub-atomic, Scattering, Charge, Mass, Structure, Periodic, Column, Metal, Non-metal, Reactivity, Physical, Characteristic	
Literacy/Reading 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
Personal Development (Including British Values, RSE, Citizenship)	None
Career Opportunities	Chemist, Pharmacist, Chemical Engineer, Materials Scientist