YEAR 10 SCIENCE: PHYSICS

Half Term 1 & 2

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Electricity** **LESSONS**	1. Circuit diagrams 2. Charge and current 3. Resistance 4. Resistance (Required practical) 5. I-V characteristics (Required practical)	6. LDRs, thermistors and diodes 7. Resistors in series and parallel 8. Current and potential difference in series and parallel 9. Mains electricity	10. Wiring a plug 11. Electrical power 12. Energy transfers in electrical appliances 13. The national grid 14. ***Electric field*** 15. ***Static electricity***
Knowledge & Skills Development	• Knowledge of the circuit symbols for a variety of electrical components as well as why we use them • Understanding of the terms current, voltage, potential difference and resistance • Recall, using and rearranging equations for various electrical quantities • Measuring electrical quantities with appropriate meters	• The function and uses of LDRs, diodes and thermistors • Understanding of AC and DC electricity • The wires and safety features in a standard British plug • Understanding of the need for transformers in the national grid • ***Understanding of the nature of electric fields and the causes and effects of static electricity***	
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 Symbol, Diagram, Charge, Current, Potential Difference, Resistance, Coulomb, Joule, Volt, Amp, Diode, Characteristic, LDR, Thermistor, Series, Parallel, Alternating, Direct, Power, Field, Electron, Non-contact, Attract, Repel		
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	Electrician, Electrical Engineer, Robotics, Computer Scientist