YEAR 9 SCIENCE: PHYSICS

Half Term 5 & 6

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Energy** **LESSONS**	1. Energy Stores 2. Energy Changes and transfers 3. Kinetic energy 4. Gravitational Energy	5. Power 6. Energy transfers in a system ***7. Insulation (Required Practical)*** ***8.*** Efficiency	9. Specific Heat Capacity 10. Specific Heat Capacity (Required Prac) 11. Non-renewable energy resources 12. Renewable energy resources
Knowledge & Skills Development	• Knowledge of the types of energy (stores) and examples of each • Description of the energy changes in various situations • Recall, using and rearrange equations for kinetic energy, gravitational energy, elastic energy, power, specific heat capacity and efficiency • Understanding of the meaning of the words power and efficiency in scientific contexts	• Understanding of thermal conductivity and the best use of materials in different situations • Understanding of the specific heat capacity of different materials • Experimental determination of the specific heat capacity of a block of metal Evaluation of different methods of generating 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 Energy, Joule, Kinetic Energy, Elastic Energy, System, Thermal, Conductivity, Capacity, Specific Heat Capacity, Efficiency, Power, Watt, Conservation, Gravitational Energy, Chemical Energy, Geothermal, Hydroelectric, Biomass, Renewable, Resource, Advantage, Disadvantage		
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)	Global issues – energy crisis, climate change
Career Opportunities	Careers within energy companies such as EON, careers within engineering and manufacturing, product design (e.g. sports equipment needed to transfer energy)