YEAR 11 SCIENCE: PHYSICS

Half Term 4

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Space** **LESSONS**	1. **Our Solar System** 2. **Life cycle of a star**	3. **Orbital motion, natural and artificial satellites** 4. **Red shift**	
Knowledge & Skills Development	• **Explain how fusion reactions are caused at the start of a star's life cycle** • **Knowledge about the equilibrium reached between the gravitational collapse of a star and its expansion due to fusion energy** • **Describe the life cycles of stars of similar size to the sun and also stars which have considerably more mass**	• **Explain qualitatively how the force of gravity can lead to changing velocity but unchanged speed in circular orbit** • **Explain qualitatively how the radius must change if the speed of orbit changes (in a stable orbit)**	
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 Universe, Galaxy, Nebula, Planet, Protostar, Main Sequence, Supernova, Orbit, Asteroid, Comet, Satellite, Equilibrium, Fusion, Neutron Star		
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	Telecommunications, Astrophysicist, Careers within NASA or ESA (Technicians, Analysists, Engineers, Astronauts)