Yr12 Physics – Unit 1

	Lessons Sequence
TOPIC (S) **Measurements and their Errors**	1. SI Units, Prefixes and standard form 2. Rearranging Equations and significant figures • 3. Preparing for investigation 4. Carrying out investigations 5. Analysing results • 6. Graphs 7. Uncertainties
Knowledge & Skills development	• The use of SI base and derived units • The use of prefixes and standard form • Rearranging complex A level equations • Determining how many significant figures to use • Independent, dependent and control variables • Writing methods • Planning for accuracy • Use of Vernier callipers and micrometre screw gauges • Risk assessments • • How to present tables of results including raw and calculated data • Plotting graphs • Lines of best fit and matching these to the equation of a straight line • Calculating absolute and percentage uncertainty for single and repeated readings • Combining uncertainties
Assessment / Feedback Opportunities	Assessment of maths skills in student books • Deep marking of lab books • Practical style exam questions
Cultural Capital	• • •
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• •
Reading opportunities	• Recommended Read: What Science Is and How It Really Works by James C Zimring
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest, Absolute, Uncertainty, Error
Digital Literacy	The use of excel to plot graphs and analyse data MSOffice365 apps including SharePoint
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators
Careers	All scientific careers, technicians, engineers