



Curriculum Map: Year 11 Subject: GCSE Physics (Combined Science) Exam Board: AQA

Topic	Key Knowledge <i>What will all students KNOW by the end of the topic?</i>	Key Skills <i>What key skills will be learnt/developed by the end of the topic? What will all students be able to DO by the end of the topic?</i>	Assessment Opportunities <i>What are the key pieces of assessment? How will students be assessed?</i>
Forces	<ul style="list-style-type: none"> - Newton's 1st & 2nd laws of motion - Required practical 7- investigation of Newton's 2nd Law (in 2 parts) - Concepts of directly proportional & inversely proportional - Newton's 3rd law of motion - Terminal velocity - Stopping distance, thinking distance & braking distance - Reaction time & factors affecting it - Factors affecting braking distance - Momentum & conservation of momentum - Changes in momentum - Review - Distance-time graphs - Distance, displacement, speed & velocity - Scalar & vector quantities 	<ul style="list-style-type: none"> - Plot and draw appropriate graphs selecting appropriate scales for the axes. - Method writing and clarity on variables - Recall of practical terms from Year 9 and addition of new terms# - Apply Newton's 3rd law of motion to equilibrium situations - Application of Newton's 2nd law of motion to stopping vehicles safely - Evaluate the effect of various factors on thinking distance based on given data - Describe & explain examples of conservation of momentum - Complete calculations involving an event such as a collision - Apply equations relating forces, mass, velocity & acceleration to explain how the changes are inter-related - Explain safety features such as air bags with reference to the rate of change of momentum 	<ul style="list-style-type: none"> -Starter tasks to review prior learning -Ongoing PPQ -AFL in Class -Required Practical Skills -Interpretation of Graphs -Assessment 2 -Mocks -PPQ - Required Practical 7 – $F=ma$
Electromagnetism	<ul style="list-style-type: none"> - Permanent and induced magnetism - Poles of a magnet - Magnetic forces & fields - Electromagnetism & its uses - Force on a current carrying conductor & the motor effect 	<ul style="list-style-type: none"> - (describe) how to plot the magnetic fields pattern of a magnet using a compass - describe how the magnetic effect of a current can be demonstrated - interpret diagrams of electromagnetic devices in order to explain how they work 	<ul style="list-style-type: none"> -PPQ - AFL in class -Starters to consolidate prior knowledge -Topic test -Assessment in class

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	<ul style="list-style-type: none"> - Fleming's left-hand rule - Use of the motor effect in electric motors - The structure of step-up & step-down transformers - The relationship between number of turns and p.d. for step-up & step-down transformers 	<ul style="list-style-type: none"> - Use Fleming's left-hand rule to determine the direction of the force, current or magnetic field given the direction of the other two - Application of the motor effect to new experimental arrangements - Connections to Topic 2 (Electricity) and power transfer in transformers 	<ul style="list-style-type: none"> -Homework -Quizzes -Practical Motor Effect
	<p>Preparation for Paper 1 and Paper 2</p>		<ul style="list-style-type: none"> -PPQ -Homework -Mind Maps -Flashcards made in class