

**Maths**  
**Year 12 applied curriculum map**



<b>Year 12</b>	<b>T1 Statistics</b>	<b>T2 Statistics</b>	<b>T3 Statistics</b>	<b>T4 Mechanics</b>	<b>T5 Mechanics</b>	<b>T6 Mechanics</b>
Content / Topic for Term	Averages, IQR, standard deviation Cumulative frequency and boxplots Histograms Correlation	Probability DRV	Binomial Distribution Hypothesis Testing	Kinematics: Graphs	Kinematics: SUVAT formulae and variable accelerations	Forces
Key knowledge for acquisition, recall and application in assessment or exam	<ul style="list-style-type: none"> <li>• Mean, median, mode, IQR, variance and standard deviation: calculate and use to compare data</li> <li>• Linear interpolation</li> <li>• Interpret histograms (understanding the proportional relationship between frequency and area)</li> <li>• Use the equation of a regression line to make predictions (interpolation vs extrapolation)</li> <li>• Describe correlation using strong/weak and positive/negative</li> </ul>	<ul style="list-style-type: none"> <li>• Venn diagrams</li> <li>• Use of independence and mutually exclusive</li> <li>• Use tree diagrams for conditional probability</li> <li>• Find the probability distribution function and cumulative distribution function</li> </ul>	<ul style="list-style-type: none"> <li>• Hypothesis testing for Binomial distributions – 1 and 2 tail testing</li> <li>• Using calculators to work out the probability of an event or events</li> <li>• Know and use the binomial theorem for problems involving exact probabilities</li> </ul>	<ul style="list-style-type: none"> <li>• SI units of displacement, velocity and acceleration</li> <li>• Know the difference between distance-time and velocity-time graphs and draw and interpret both</li> <li>• Calculate velocity from a D-T graph</li> <li>• Calculate acceleration and displacement from a V-T graph</li> </ul>	<ul style="list-style-type: none"> <li>• Five SUVAT formulae</li> <li>• Apply SUVAT formulae to problems involving constant acceleration (horizontal and vertical motion)</li> <li>• Know when to use SUVAT and when to use calculus</li> <li>• Differentiate/integrate for problems involving variable acceleration</li> </ul>	<ul style="list-style-type: none"> <li>• Newton’s three Laws of Motion</li> <li>• Apply Newton’s Laws and the SUVAT formulae to problems involving forces</li> <li>• Know and distinguish between five different forces</li> <li>• Model diagrams for lift, connected particle and pulley problems</li> <li>• Apply understanding of vectors from Pure Maths to force and constant</li> </ul>

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						acceleration problems
Key skills to apply in assessment or exam	<ul style="list-style-type: none"> <li>• Use of calculator for averages</li> <li>• Histograms and frequency density</li> <li>• Direct and inverse proportion</li> </ul>	<ul style="list-style-type: none"> <li>• AND/OR laws</li> <li>• Bayes theorem for conditional probability</li> <li>• Notation for pdf</li> </ul>	<ul style="list-style-type: none"> <li>• Use of calculator for statistical values</li> </ul>	<ul style="list-style-type: none"> <li>• Distance-time graphs</li> </ul>	<ul style="list-style-type: none"> <li>• Calculus</li> <li>• SUVAT equations</li> </ul>	<ul style="list-style-type: none"> <li>• SUVAT equations and how to find them</li> </ul>