



	Mechanics	<p>Know that the acceptance region is the range of possible values, that the discrete random variable can take, that do not lie in the critical region and that if the test statistic lies in the acceptance region that this will lead to the acceptance of the null hypothesis, appreciate that if the test statistic corresponds to a critical value in the critical region that the null hypothesis is rejected, or that if the test statistic is in the acceptance region then the null hypothesis is accepted.</p> <p>Understand types of force, including, normal reaction force, tension in a string or a rod, thrust in a rod, weight and friction. Know that the resultant force acting on a body is zero if a body is in equilibrium and be able to find unknown forces acting on bodies that are at rest or moving with constant velocity. Be able to model forces as vectors and to find the resultant of several forces acting at a point. Use <math>F = ma</math> for constant mass and constant force</p> <p>Understand that objects can be modelled as particles and comment on the relevance of any modelling assumptions made. Understand the distinction between mass and weight. In questions where a numerical value for <math>g</math> is needed, students will be clearly told which approximation to use and their answers should then be given to an appropriate degree of accuracy. When deciding on the degree of accuracy to use in their answers, students should be guided by the accuracy of the data given in the question.</p> <p>In questions involving objects in motion under gravity it will be assumed that:</p> <ul style="list-style-type: none"> <li>• <math>g</math> remains constant</li> <li>• objects can be treated as particles</li> <li>• resistance forces are negligible</li> </ul> <p>Understand and use Newton's third law; equilibrium of forces on a particle and motion in a straight line (restricted to forces in two perpendicular directions or simple cases of forces given as 2-D vectors); application to problems involving smooth pulleys and connected particles; resolving forces in 2 dimensions; equilibrium of a particle under coplanar forces.</p>					
<b>Assessment / Feedback Opportunities</b>		Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
<b>Cultural Capital</b>		<ul style="list-style-type: none"> <li>• Tolerance and respect for peers and mathematicians</li> <li>• Democracy: allowing all to speak and voice views</li> </ul>					
<b>SMSC / Promoting British Values</b> (Democracy, Liberty, Rule of Law, Tolerance & Respect)		Willingness to participate in, and respond to mathematical opportunities. Use of social skills in different contexts, including working and socialising with pupils from different religious, ethnic and socio-economic backgrounds.					

<b>Reading opportunities</b>		<ul style="list-style-type: none"> <li>• Fermat's Last Theorem</li> <li>• History of computer programming</li> <li>• Newton's Laws of Motion</li> </ul>
<b>Key Vocabulary</b>		Trigonometry, Hypothesis, Equilibrium, Resultant Forces.
<b>Digital Literacy</b>		Autograph, Desmos for graphing. Geogebra.
<b>Careers</b>		Architect, Sports science, Engineer, Statistician, Business- manager, Market research. Computer Programmer, Video game development.

## Maths- Y12



HALF TERM 2 NOV - DEC	Week 1	Week 2	Week 3	Week 4 and 5	Week 6	Week 7
TOPIC (S)						
Knowledge & Skills development	•					
Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	•					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• •					
Reading opportunities	•					
Key Vocabulary						
Digital Literacy						
Careers						



HALF TERM 3 JAN - FEB	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
TOPIC (S)	ASSESSMENT review	Inequalities	Vectors	Vectors	Sine and Cosine rules	Sine and Cosine rules
Knowledge & Skills development	•					
Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	•					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• •					
Reading opportunities	•					
Key Vocabulary						
Digital Literacy						
Careers						



HALF TERM 4 FEB - APR	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
TOPIC (S)						
Knowledge & Skills development	•					
Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	•					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• •					
Reading opportunities	•					
Key Vocabulary						
Digital Literacy						
Careers						



HALF TERM 5 APR - MAY	Week 1	Week 2	Week 3	GCSE exams		
TOPIC (S)						
Knowledge & Skills development	•					
Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	•					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• •					
Reading opportunities	•					
Key Vocabulary						
Digital Literacy						
Careers						



<b>HALF TERM 6 JUN - JUL</b>	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5 and 6</b>	<b>Week 7</b>
<b>TOPIC (S)</b>						
<b>Knowledge &amp; Skills development</b>	<ul style="list-style-type: none"> <li>•</li> </ul>					
<b>Assessment / Feedback Opportunities</b>	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
<b>Cultural Capital</b>	<ul style="list-style-type: none"> <li>•</li> </ul>					
<b>SMSC / Promoting British Values</b> (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>					
<b>Reading opportunities</b>	<ul style="list-style-type: none"> <li>•</li> </ul>					
<b>Key Vocabulary</b>						
<b>Digital Literacy</b>						
<b>Careers</b>						