



HALF TERM 1 SEPT - OCT	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 7
<b>TOPIC (S):-Pure</b>  <b>:-Statistics</b>  <b>:-Mechanics</b>	Binomial theorem, sequences and series.  Statistical Sampling  Vectors	Binomial theorem, sequences and series.  Statistical Sampling  Vectors	Functions and Transformations  Statistical Sampling  Vectors	Functions and Transformations  Data presentation and interpretation  Vectors	Trigonometry and circular measure.  Data presentation and interpretation  Vectors	Trigonometry and circular measure.  Data presentation and interpretation  Vectors	Trigonometry and circular measure.
<b>Knowledge &amp; Skills development</b>	Pure   Statistics  Mechanics	<p>Understand and use the binomial expansion of <math>(a + bx)^n</math>. Extend to any rational <math>n</math>, including its use for approximation, be aware that the expansion is valid for <math> bx/a  &lt; 1</math>. Understand and work with modulus notation. Understand and use sigma notation for sums of series. Work with sequences including those given by a formula for the <math>n</math>th term and those generated by a simple relation of the form <math>x_{n+1} = f(x_n)</math>; increasing sequences; decreasing sequences; periodic sequences. Understand and work with geometric sequences and series including the formulae for the <math>n</math>th term and the sum of a finite geometric series; the sum to infinity of a convergent geometric series, including the use of <math> r  &lt; 1</math>. Work with radian measure, including use for arc length and area of sector. Understand and use the standard small angle approximations of sine, cosine and tangent: <math>\sin \theta \approx \theta</math>; <math>\cos \theta \approx 1 - \theta^2/2</math>; <math>\tan \theta \approx \theta</math> where <math>\theta</math> is in radians. Know and use exact values of <math>\sin</math> and <math>\cos</math> for <math>0, \pi/6, \pi/4, \pi/3, \pi/2</math> and <math>\pi</math> and multiples thereof, and exact values of <math>\tan</math> for <math>0, \pi/6, \pi/4, \pi/3</math> and <math>\pi</math> and multiples thereof.</p> <p>Understand and use the terms 'population' and 'sample'. Use samples to make informal inferences about the population. Understand and use sampling techniques, including simple random sampling and opportunity sampling. Select or review sampling techniques in the context of solving a statistical problem, including understanding that different samples can lead to different conclusions about the population.</p> <p>Use vectors in two dimensions. Calculate the magnitude and direction of a vector and convert between component form and magnitude/direction form. Add vectors diagrammatically and perform the algebraic operations of vector addition and multiplication by scalars, and understand their geometrical interpretations. Understand and use position vectors; calculate the distance between two points represented by position vectors. Use vectors to solve problems in pure mathematics and in context, including 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)	•	<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>Reading opportunities</b>		<ul style="list-style-type: none"> <li>• Fermat's Last Theorem</li> <li>• History of computer programming</li> <li>• History of Florence Nightingale</li> </ul>					
<b>Key Vocabulary</b>		Indices, Surds, Manipulate, Rationalise, Factorise, discriminant, Population, sample, Magnitude, Forces					
<b>Digital Literacy</b>		Demos for graphing. Geogebra.					
<b>Careers</b>		Engineer, Statistician, Business- manager, Market research. Computer Programmer, Video game development.					

# Maths- Y12

## MAGHULL HIGH SCHOOL – CURRICULUM MAP



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						

# Maths- Y12

## MAGHULL HIGH SCHOOL – CURRICULUM MAP



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						

# Maths- Y12

## MAGHULL HIGH SCHOOL – CURRICULUM MAP



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						

# Maths- Y12

## MAGHULL HIGH SCHOOL – CURRICULUM MAP



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						

# Maths- Y12

## MAGHULL HIGH SCHOOL – CURRICULUM MAP



HALF TERM 6 JUN - JUL	Week 1	Week 2	Week 3	Week 4	Week 5 and 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						