

## Mathematics at Meols Cop

We believe that our students deserve an ambitious mathematics curriculum rich with engaging and challenging tasks that develop both mathematical fluency and problem solving skills. Our curriculum design and sequencing uses multiple representations and prioritises the development of a deep and connected understanding of mathematical concepts. A strong emphasis on retrieval practice for all year groups aids students' memory retention and supports long-term mastery and learning. Our approach nurtures resilience and independence, encouraging students to tackle mathematical challenges with confidence. By developing mathematical literacy, we empower learners to articulate their reasoning and approach problems methodically, preparing them for future academic and real-world applications.

Autumn Term 1	Spring Term 1	Summer Term 1
<p style="text-align: center;"><u>Sequences:</u></p> <ul style="list-style-type: none"> <li>Linear sequences</li> <li>Non – linear (geometric, Fibonacci etc)</li> </ul> <p style="text-align: center;"><u>Number &amp; Place Value:</u></p> <ul style="list-style-type: none"> <li>Place Value</li> <li>Understanding Negatives</li> <li>Using the inequality sign</li> <li>Ordering Decimals</li> <li>Rounding (integer, 10, 100, 1000)</li> <li>Rounding to decimal places</li> <li>Rounding to significant figures</li> </ul>	<p style="text-align: center;"><u>Number 2 – Applications of Addition &amp; subtraction</u></p> <ul style="list-style-type: none"> <li>Mental addition</li> <li>Written Addition</li> <li>Addition of decimals</li> <li>Perimeter</li> <li>Mental Subtraction</li> <li>Written subtraction</li> <li>Perimeter</li> <li>Mode and Range</li> <li>Angles in polygons</li> </ul>	<p style="text-align: center;"><u>Number 3 Ctd</u></p> <ul style="list-style-type: none"> <li>Index notation</li> <li>Standard form conversions</li> <li>Factors, multiples and primes</li> <li>Squares, cubes and roots</li> <li>Use of a calculator</li> </ul>
Autumn Term 2	Spring Term 2	Summer Term 2
<p style="text-align: center;"><u>Number &amp; Place Value ctd:</u></p> <p style="text-align: center;"><u>Negatives</u></p> <p>Addition and subtraction of negatives</p>	<p style="text-align: center;"><u>Negatives</u></p> <p>Multiplication and Division of negatives</p> <p style="text-align: center;"><u>Number 3 - Applications of Multiplication &amp; Division</u></p> <ul style="list-style-type: none"> <li>Multiplying integers</li> <li>Multiplying and Dividing by powers of 10</li> <li>Multiplying Decimals</li> <li>Dividing integers</li> <li>Dividing decimals &amp; dividing by a decimal</li> <li>Area: Rectangle, Parallelogram, Triangle and Trapezium</li> </ul>	<p style="text-align: center;"><u>Number 3 Ctd</u></p> <ul style="list-style-type: none"> <li>Prime factorisation</li> <li>Area and Circumference of a circle</li> <li>Order of operations</li> <li>Finding the median and mean</li> </ul> <p style="text-align: center;"><u>Number 4</u></p> <ul style="list-style-type: none"> <li>Equivalent and simplifying fractions</li> <li>Multiplying fractions and mixed numbers</li> <li>Dividing fractions and mixed numbers</li> <li>One quantity as a fraction of another</li> </ul>

**Year 8****Autumn Term 1**Algebra 1

- Using algebraic notation
- Collecting Like Terms
- Indices
- Expanding Brackets
- Factorising

**Spring Term 1**Fractions, decimals and percentages

- Converting between fractions, decimals and % (calculator and non-calculator methods)
- Area and Circumference of a circle - recap (pi day)

**Summer Term 1**Percentages

- % of an amount Non Calc
- % of an amount Calc
- Increase & Decrease by a %
- Express an amount as a percentage of another
- Percentage change
- Reverse %

**Autumn Term 2**Algebra contd

- Substitution
- Solving Equations
- Forming and solving equations
- Sequences and nth term

**Spring Term 2**Ratio and proportion

- Direct Proportion
- Unit Conversions
- Proportion & Scale Diagrams
- Best Buys
- Recipe Problems
- Working in a ratio
- Sharing in a Ratio
- SDT

**Summer Term 2**Algebra 2

- Coordinate and midpoints
- Horizontal and Vertical lines
- Table of values
- Plotting straight line graphs
- Gradient
- Equation of a line
- Real life graphs

**Autumn Term 1**Angles

- Angles recap
- Angles in triangles/quadrilaterals
- Angles in polygons
- Angles in parallel lines

**Spring Term 1**Probability

- Basic probability
- Sample Space
- Relative frequency
- Sets and Venn Diagrams
- Frequency tree (KS4)
- Probability Trees (KS4)

**Summer Term 1**Properties of number

- Rounding and estimation
- Error Intervals
- Factors, multiples, primes and prime factorisation
- HCF, LCM using Venn diagrams
- Laws of Indices
- Standard form  
(INC CALCULATOR USE)

**Autumn Term 2**3D shapes

- Area recap
- Properties of 3D shapes
- SA cuboids and triangular prism
- SA of cylinders
- Volume of a prism
- Density Mass Volume (KS4)
- Plans and elevations
- Constructions and Loci

**Spring Term 2**Transformations

- Translation
- Reflection
- Rotation
- Enlargement

**Summer Term 2**RECAP

- Use of a calculator
- % of amount
- Amount as a % of another

Right angled triangles

- Pythagoras
- Trigonometry

Year 10				
Autumn Term 1		Spring Term 1		Summer Term 1
<u>Algebra &amp; Formulae</u>		<u>Interpreting and representing data</u>		<u>H: Circle Theorems</u> <u>F: Ratio and Proportion</u>
Autumn Term 2		Spring Term 2		Summer Term 2
<u>Algebra &amp; Formulae ctd</u>		<u>H: More Trigonometry</u>	<u>F: Right Angled Triangles (recap)</u>	<u>H: Quadratic Equations and Graphs</u> <u>F: Straight Line Graphs</u>

Year 11					
Autumn Term 1		Spring Term 1		Summer Term 1	
<u>H: More Algebra</u>	<u>F: Indices and Standard Form</u>	<u>H: Trigonometry and graphs</u>	<u>F: Simultaneous equations</u>	<u>H: Proportion and graphs</u>	<u>F: Multiplicative reasoning</u>
<u>H: Surds</u>	<u>F: Quadratic Equations and Graphs</u>	<u>H: Similarity and congruence</u>			
<u>Ongoing Revision and Exam preparation</u>					
Autumn Term 2		Spring Term 2			
<u>H:Algebra &amp; Formulae ctd</u> <u>H: Inequalities</u>	<u>F: Averages</u>	<u>H: Vectors and geometric proof</u>	<u>F: Congruence, Similarity and Vectors</u>		
<u>Ongoing Revision and Exam preparation</u>					