




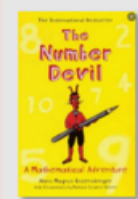


## The English Martyrs Catholic School and Sixth Form College

<u>Year 8 Maths</u>	<u>Module 1</u>	<u>Module 2</u>	<u>Module 3</u>
<b><u>Topic Theme and Intent</u></b>	Within this first Module, Year 8 students will cover 4 main areas of the curriculum which are: Number, Shape, Data, Ratio.	Within Module 2, Year 8 students will cover 4 main areas of the curriculum which are: Shape, Data, Number, Algebra.	Within Module 3, Year 8 students will cover 3 main areas of the curriculum, which are: Shape, Algebra, Probability.
<b><u>Knowledge and Skills</u></b>	<p><b>Number:</b> Significant figures, estimation, fractions, mixed numbers, square/cube roots, factors, multiples, BIDMAS, laws of indices, negative indices, reciprocals, standard form.</p> <p><b>Shape:</b> Area of compound shapes, area problem solving, circumference, surface area, volume, converting area units.</p> <p><b>Data:</b> Discrete and continuous data, stem and leaf diagrams, hypotheses, pie charts, scatter graphs, line of best fit.</p> <p><b>Ratio:</b> Simplifying ratios, proportion, unitary ratio, ratio as fractions, sharing amounts in a given ratio, combining ratios.</p>	<p><b>Shape:</b> Nets of shapes, plans and elevations, volume of compound prisms, converting volume units, constructing triangles, scale drawings, bearings, constructing bisectors, loci, Pythagoras' Theorem.</p> <p><b>Data:</b> Averages and the range from a list of data and from a table of values/grouped table of values, comparing datasets.</p> <p><b>Number:</b> negative numbers, substitution, money calculations.</p> <p><b>Algebra:</b> nth term, simplifying expressions, expanding brackets, solving equations and inequalities, rearranging formulae, iteration.</p>	<p><b>Shape:</b> Reflective and rotational symmetry, transformations, angle rules, interior/exterior angles in polygons, similar shapes, congruent triangles.</p> <p><b>Algebra:</b> <math>y = mx + c</math>, calculating gradient and y-intercept, parallel and perpendicular lines, solving simultaneous equations graphically.</p> <p><b>Probability:</b> Calculating expected probability, relative frequency, sample space diagrams, independent vs. mutually exclusive events, tree diagrams, probability from a table, probability of events not happening.</p>
<b><u>Literacy Links</u></b>	<p><b>Reading:</b> Reading estimates from a scatter graph using a line of best fit.</p> <p><b>Writing:</b> Use the correct notation when writing a number in standard form.</p> <p><b>Oracy:</b> Explain the difference between discrete and continuous data.</p>	<p><b>Reading:</b> Reading angles carefully when calculating bearings.</p> <p><b>Writing:</b> Writing a key when constructing stem and leaf diagrams.</p> <p><b>Oracy:</b> Explain how to calculate averages and range from grouped frequency tables.</p>	<p><b>Reading:</b> Reading the solutions from a graph to solve simultaneous equations.</p> <p><b>Writing:</b> Writing the equation of a straight-line in the form <math>y = mx + c</math>.</p> <p><b>Oracy:</b> Explain how to construct a tree diagram for independent events.</p>
<b><u>Essential Vocabulary</u></b>	Standard form, indices, hypothesis, discrete, continuous, circumference, significant figure, simplify, convert, prism, interpret.	Elevation, bisector, construct, bearing, scale, loci, average, range, negative, substitute, rearrange, iteration, inequality, expand, simplify, nth term, sequence, compare.	Symmetry, gradient, parallel, perpendicular, frequency, probability, independent, mutually exclusive, simultaneous, y-intercept, congruent, interior, exterior, enlarge, reflect, rotate, translate.
<b><u>Catholic Social Teaching</u></b>	 <p><b>Option for the poor</b> – In learning about ratios, students will discuss concepts of fairness and equity, including sharing resources.</p>	 <p><b>Human Dignity</b> – In learning how to calculate averages and the range, students see that there can be differences between those included within a group.</p>	 <p><b>Solidarity</b> - Students will learn about the importance of a systematic structure in algebra, which mirrors the importance of order and structure in life.</p>

### Disciplinary Reading

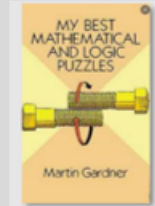
### Reading for Pleasure



The Number Devil  
By Hans Magnus  
Enzensberger



Entertaining  
Mathematical Puzzles  
By Martin Gardner



My Best Mathematical  
and Logic Puzzles  
By Martin Gardner



The Time and Space  
of Uncle Albert  
By Russell Stannard