The English Martyrs Catholic School and Sixth Form College

| Year 8 Maths	Module 1	Module 2	Module 3
Topic Theme and Intent	Within this first Module, Year 8 students will cover 2 main areas of the curriculum which are: Number and Algebra.	Within Module 2, Year 8 students will cover 5 main areas of the curriculum which are: Data, Number, Algebra and Shape.	Within Module 3, Year 8 students will cover all 5 of the main areas of the curriculum which are: Data, Algebra, Shape, number and Ratio and Proportion.
Knowledge and Skills	<u>Number:</u> Types of numbers, HCF LCM, Standard Form, four operations with decimals and negatives, rounding and truncating, estimating. <u>Algebra:</u> Collecting like terms, simplifying expressions, expand and factorising **(including quadractics),** substitution.	<u>Number:</u> FDP, Fraction calculations. <u>Algebra:</u> Nth Term and sequences <u>Ratio and Proportion:</u> speed, dividing in a ratio, recipes, best buy, direct and **indirect proportion, density** <u>Shape:</u> Area and perimeter of shapes (including circles), volume and surface area. <u>Data:</u> Probability, two-way tables.	<u>Data:</u> Mean median mode, range, frequency polygons, pie charts. <u>Number:</u> percentages (increase and decrease) <u>Algebra:</u> Solving equations, inequalities, change the subject of a formula, straight line graphs <u>Shape:</u> Pythagoras, plans and elevations, isometric drawing, construct triangles, bisect lines and angles, bearings, similar shapes, transformations (enlarge, rotate, reflect and translate shapes) <u>Ratio and Proportion:</u> conversion graphs
Literacy Links	**Reading**: Read and interpret standard form questions to ensure they are written in the correct form. **Writing**: Use the correct notation when writing a number as a product of its prime factors. **Oracy**: Be able to verbalise why rounding to 1 s.f. makes estimating more accessible.	**Reading**: Identify key information to substitute into an equation when answering speed questions. **Writing**: Use the correct notation when giving units in area and volume questions **Oracy**: Be able to communicate the chances of an event happening.	**Reading**: Identify key information relating to a percentage increase or decrease question. **Writing**: Use the correct notation when writing the inequalities from a diagram. **Oracy**: Understand the etymology of the word bisect.
Essential Vocabulary	Standard form, Truncation, Significant figure, Rounding, Estimation, Quadratic, Factorising, Expanding, Substitution.	perpendicular, circumference, radius, Diameter, Arc, Sector, Segment, tangent, chord, pi, perimeter, volume, evens, outcome, bias, mutually exclusive	Hypotenuse, Plan, elevation, Construct, bisect, perpendicular, scale factor, gradient, intercept, Rotate, reflect, translate, enlarge, vector, sector, proportion, multiplier, interest, inverse, modal, range, spread, mean, median

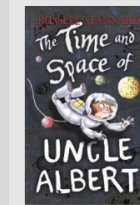## Disciplinary Reading   Reading for Pleasure
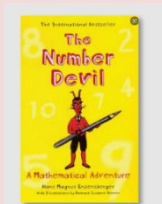
The Number Devil
By Hans Magnus
Enzensberger
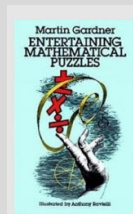
Entertaining
Mathematical Puzzles
By Martin Gardner
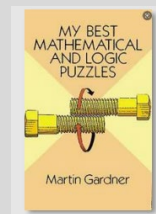
My Best Mathematical
and Logic Puzzles
By Martin Gardner

The Time and Space
of Uncle Albert
By Russell Stannard