Le Rocquier Mathematics: Y8 Criteria-Led Progression Grid

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Excelling	• Surface area of compound 3D shapes. • Finding the LCM of two numbers in the context of time (i.e., the next time two buses depart simultaneously). • Solving problems involving index laws and algebra. • Solving surface area and volume problems in context.	• Solve algebraic problems in context involving taught content such as perimeter, area, volume.	• Solving missing angle problems that involve algebraic equations. • Able to work with the formula: (n – 2) x 180° = total of interior angles to solve complex problems, including inverse problems. • Solving combined missing angle problems involving the properties of exterior and interior angles of polygons.	• Solve problems involving FDP within different contexts including algebraically. • Solve problems using ratios within different contexts including double ratio problems.	• Solve problems involving Venn diagrams within different contexts including algebraically. • Builds links between Venn diagrams, including the intersection and union of sets, with finding the HCF and LCM using prime factorisation. • Solve problems involving probability within different contexts including algebraically.	• Solve problems using averages within different contexts including FDP and algebra.
Secure	• Can complete prime factorisation (prime factor trees) of numbers up to 1000, giving an answer as a product of prime factors using index notation. • Surface area of simple 3D shapes. • Further index laws including how to raise a power through the use of brackets. • Drawing nets of a wider range of 2D shapes. • Volume of compound prisms.	• Solving multi-step equations (including equations with brackets). • Substitution to find the area of circles, giving the answer as a rounded decimal. • Solving multi-step inequalities (including inequalities with brackets). • Continuing a linear sequence from a complex algebraic rule. • Use of the nth rule to identify if numbers fall into a given sequence.	• Able to solve multi-step bearing problems. • Construction of triangles using a compass. • Can use the fact that exterior angles sum to 360° to work out the total number of sides a regular shape has when shown an angle. • Solving combined missing angle problems involving the properties of angles on parallel lines.	• Comparing ratios and fractions. • Finding the whole amount from a given fraction or percentage. • Finding the whole amount from a given part of a ratio in the format m : n.	• Use knowledge of set notation to find the intersection and union of different sets even without a Venn diagram. • Read and interpret a wide range of set notation including: {, }, ε, ∩, ∪, ∅, ', ∈, P(event).	• Given the median, find missing values. • Given the mean, find missing values. • Can select the most appropriate average to represent data sets. • Can find the combined mean from multiple data sets.
Developing	• Finding multiples (including the LCM), showing a complete method. • Finding factors (including the HCF), showing a complete method. • Identifying prime numbers (up to 100). • Can complete prime factorisation (prime factor trees) of numbers up to 1000, giving an answer as a non-simplified product of prime factors. • Basic index laws including how to combine indices with multiplication and division. • Area of compound shapes. • Drawing nets of common 2D shapes. • Surface area of simple 3D shapes. • Volume of triangular prisms and parallelepiped.	• Solving two-step equations. • Substituting into expressions with mixed operations. • Substitution to find the area of trapeziums. • Substitution to find the area of circles in terms of pi. • Solving two-step inequalities. • Representing inequalities on number lines. • Continuing a linear sequence from a simple algebraic rule. • Finding the nth rule of a linear sequence.	• Solving combined missing angle problems using known facts from Year 7. • Use cardinal directions correctly on a map, linking them to the degree of a turn. • Measure and read bearings. • Drawing bearings. • Able to identify and use alternate, corresponding and co-interior angles. • Construction of triangles using a protractor. • Calculation of exterior angles, understanding that exterior angles always sum to 360°. • Calculation of interior angles, remembering the formula: (n – 2) x 180° = total of interior angles.	• All four operations with fractions, with complete method shown. • Ability to calculate FDP equivalence for any fraction, decimal or percentage. • Calculate simple interest on amounts. • Simplifying ratios. • Dividing by ratios. • Can solve problems including ratio in unitary format (1 : *n*). • Adding and subtracting fractions with different denominators, showing a complete method.	• Read and interpret Venn diagrams. • Populate Venn diagrams from given information. • Read and interpret a range of set notation including: {, }, ε, ∩, ∪, P(event). • Generate, and find probabilities from, sample spaces for multiple events. • Generate, and find probabilities from, two-way tables. • Find probabilities from Venn diagrams. • Find the total number of outcomes using the product rule.	• Find and interpret the range. • Find and interpret the mode. • Find and interpret the median. • Find and interpret the mean. • Given the range, find missing values. • Given the mode, find missing values.
Foundation	• Area of rectangles (including squares). • Area of parallelograms. • Area of triangles. • Identifying Prime Numbers (up to 23). • Finding square numbers and square roots. • Finding cube numbers and cube roots. • To find the LCM of two numbers (with use of a calculator). • To find most factors of numbers, including the HCF (with use of a calculator). • Volume of cubes and cuboids.	• Simplifying expressions using all four operations. • Finding the output from a function machine. • Finding the input from a function machine, given the output. • Solving one-step equations. • Area of rectangles (including squares). • Area of parallelograms. • Area of triangles. • Understand the meaning of <, >, ≤, ≥. • Solving one-step inequalities.	• Measuring angles up to 360° using a protractor. • Constructing angles up to 360° using a protractor. • Calculating missing angles on a straight line. • Calculating missing angles around a point. • Calculating missing angles within a triangle. • Calculate missing angles within common quadrilaterals. • Use cardinal directions correctly on a map.	• Adding and subtracting fractions with the same denominator. • Multiplying fractions, showing a complete method. • Dividing fractions, showing a complete method. • Multiplying fractions. • Finding fractions of amounts. • Finding percentages of amounts. • Increase and decrease amounts by a percentage. • Fluent knowledge of common FDP equivalences less than 1 (i.e., ½ = 0.5 = 50%). • Can use ratio notation to describe simple comparisons (i.e., 6 red beads: 5 green beads).	• Express probabilities in words. • Express probabilities as fractions. • Express probabilities on number lines. • Understand that probabilities sum to 1. • Generate, and find probabilities from, sample spaces for singular events. • Can identify the intersection of a Venn Diagram and the relevant set notation for it. (∩) • Can identify the union of a Venn Diagram and the relevant set notation for it. (∪)	• Find the range. • Find the mode. • Find the median. • Find the mean.