

Year 8 Mathematics Mastery Success Criteria

Autumn Term	Spring Term	Summer Term
Number and Algebra	2D Geometry and Proportional Reasoning	3D Geometry and Statistics.
<p>UNIT 1 – Prime Numbers and Factorisation</p> <ul style="list-style-type: none"> <input type="checkbox"/> Find the factors and multiples of a number CLIP N10, N11 <input type="checkbox"/> Find Prime factors. CLIP N30 <input type="checkbox"/> Determine HCF and LCM by prime factorisation CLIP N31 <input type="checkbox"/> Find squares, square roots, cubes and cube roots CLIP N25 <input type="checkbox"/> Use indices to record repeated multiplication CLIP N10, N11 <p>UNIT 2 – Calculating with Fractions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use equivalent fractions CLIP N23 <input type="checkbox"/> Add and subtract fractions with like denominators CLIP N36 <input type="checkbox"/> Add and subtract fractions with unlike denominators CLIP N36 <input type="checkbox"/> Add and subtract mixed numbers and improper fractions CLIP N36, N41 <input type="checkbox"/> Convert between improper and fractions and mixed numbers CLIP N35 <p>UNIT 3 – Positive and Negative Numbers</p> <ul style="list-style-type: none"> <input type="checkbox"/> Represent and order positive and negative integers using symbols $< > \geq \leq$ CLIP A2, A20 <input type="checkbox"/> Show addition and subtraction on a number line <input type="checkbox"/> Calculate with rational and decimal numbers (including negative numbers) CLIP N13, N14, N40 <p>UNIT 4 – Sequences, Expressions and Equations</p> <ul style="list-style-type: none"> • Recognise and represent number patterns (including finding an algebraic expression for the nth term) CLIP A2, A4 <ul style="list-style-type: none"> • Translate simple real-world situations into algebraic expressions CLIP A2, A4, A7 • Use letters to represent numbers • Distinguish between terms and coefficients in algebraic expressions CLIP A2, A6 • Distinguish between like and unlike terms in algebraic expressions CLIP A6 • Add and subtract linear algebraic expressions CLIP A7 <ul style="list-style-type: none"> • Expand simple linear expressions CLIP A7, A8 • Solve linear equations in one unknown CLIP A12, A17, A19 • Solve simple fractional equations that can be reduced to linear equations CLIP A12, A17, A19 	<p>UNIT 5 – Draw accurate triangles and quadrilaterals, find unknown angles.</p> <ul style="list-style-type: none"> • Measure, identify name and draw angles CLIP G10 • Define triangles and quadrilaterals based on their properties. CLIP G13, G14 G16 • Draw a range of 2D shapes given partial measurements. • Understand and use right, acute, obtuse and reflex angles, complementary and supplementary angles, vertically opposite angles, adjacent angles on a straight line, interior and exterior angles CLIP G13, G18 • Identify the different types of angles formed by parallel lines and a transversal such as corresponding angles, alternate angles and interior angles CLIP G13, G18 • Use the various properties of angles to find unknown angles CLIP G13, G17, G18 <p>UNIT 6 – Length and Area- units, parallelograms and trapeziums.</p> <ul style="list-style-type: none"> • Convert between cm^2 and m^2 CLIP R6 • Find the area and perimeter of a figure made up of some of the following shapes: square, rectangle, triangle CLIP G8, G20, G24 • Find the areas of parallelograms and trapeziums CLIP G14, G20 • Find the areas and perimeters of composite plane figures CLIP G24 • Solve word problems involving area and perimeter <p>UNIT 7 – Percentage Change</p> <ul style="list-style-type: none"> CLIP N24, N32, N39 • Use percentages greater than 100% • Express one quantity as a percentage of another CLIP N24 • Compare two quantities by percentage • Increase or decrease a quantity by a given percentage CLIP R9 • Understand how to compare quantities using percentages CLIP N39 <ul style="list-style-type: none"> • Reverse percentages: find the original quantity given a part of it and its percentage CLIP R12 • Reverse percentages: find the original quantity when we know its final value after the percentage increase or decrease CLIP R12 <p>UNIT 8 – Ratio</p> <ul style="list-style-type: none"> • Compare two or more quantities by ratio CLIP R1, R2 <ul style="list-style-type: none"> • Relate ratios to fractions CLIP R3 • Write equivalent ratios, and find the missing term in a pair of equivalent ratios CLIP R5 • Express ratios involving rational numbers in their simplest form CLIP R5 • Find the ratio of two or three given quantities CLIP R1, R5 • Express one quantity as a fraction of another given the two quantities CLIP R3 • Solve up to 2-step word problems involving ratio • Understand and differentiate between the concepts of speed, average speed and uniform speed CLIP R11 	<p>UNIT 9 – Rounding, estimation and significant figures.</p> <ul style="list-style-type: none"> • Round off a number to a required number of decimal places CLIP N27 • Round off a number to a required number of significant figures CLIP N38 • Estimate the answer to a given problem CLIP N43 • Identify rounding and truncation errors <p>UNIT 10- Circumference and area of a circle</p> <ul style="list-style-type: none"> • Use formulae to calculate the area and circumference of a circle CLIP G22 • Find the area and perimeter of * semicircle (half circle) * quarter circle • Solve word problems involving area and perimeter <p>UNIT 11 – 3D shapes and their nets.</p> <ul style="list-style-type: none"> • Recognise nets of 3D shapes CLIP G12 • Build and name 3D shapes <p>UNIT 12 – Surface area and volume of cuboid, prism, cylinder, composite solids.</p> <ul style="list-style-type: none"> • Find the surface area of cubes and cuboids CLIP G21 • Find the surface area of prisms and cylinders CLIP G25 • Find the volumes of cubes and cuboids CLIP G21 • Find the volumes of prisms and cylinders CLIP G25 • Find the surface areas and volumes of composite solids CLIP G24 • Convert between cm^3 and m^3 CLIP R2