

Progression in Mathematics – Year 6

Pupil name

Class/ Group (s)

Date (from - to)



	Dimension 1 – Number			Dimension 2 - Measurement
	Aspect 1 – Place Value	Aspect 2 – Four Rules	Aspect 3 – Fractions (including decimals and percentages)	Aspect 4 – Measurement
Year 6	<ul style="list-style-type: none"> Reads, writes, orders and compares numbers up to 10 000 000 and determines the value of each digit Rounds any whole number to a required degree of accuracy Uses negative numbers in context, and calculates intervals across zero Solves number and practical problems that involve all of the above. 	<ul style="list-style-type: none"> Multiplies multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Divides numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interprets remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Divides numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to context Performs mental calculations, including with mixed operations and large numbers. Identifies common factors, common multiples and prime numbers Uses their knowledge of the order of operations to carry out calculations involving the four operations Solves addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solves problems involving addition, subtraction, multiplication and division Uses estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy 	<ul style="list-style-type: none"> Uses common factors to simplify fractions Uses common multiples to express fractions in the same denomination Compares and orders fractions, including fractions >1 Adds and subtracts fractions with different denominators and mixed numbers, using the concept of equivalent fractions Multiplies simple pairs of proper fractions, writing the answer in its simplest form (for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) Divides proper fractions by whole numbers (for example, $\frac{1}{3} \div 2 = \frac{1}{6}$) Associates a fraction with division and can calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, $\frac{3}{8}$) Identifies the value of each digit in numbers given to three decimal places and multiplies and divides numbers by 10, 100 and 1000 giving answers up to three decimal places Multiplies one-digit numbers with up to two decimal places by whole numbers Uses written division methods in cases where the answer has up to two decimal places Solves problems which require answers to be rounded to specified degrees of accuracy Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts 	<ul style="list-style-type: none"> Solves problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate Uses, reads, writes and converts between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places Converts between miles and kilometres Recognises that shapes with the same areas can have different perimeters and vice versa Recognises when it is possible to use formulae for area and volume of shapes Calculates the area of parallelograms and triangles Calculates, estimates and compares volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units (for example, mm^3 and km^3)

	Dimension 3 – Geometry		Dimension 4 – Statistics	Dimension 5 - Algebra	Dimension 6 – Ratio and Proportion
	Aspect 5 – Properties of shapes	Aspect 6 – Position and direction	Aspect 7 – Statistics	Aspect 8 – Algebra	Aspect 9 – Ratio and Proportion
Year 6	<ul style="list-style-type: none"> Draws 2-D shapes using given dimensions and angles Recognises, describes and builds simple 3-D shapes, including making nets Compares and classifies geometric shapes based on their properties and sizes and finds unknown angles in any triangles, quadrilaterals, and regular polygons Illustrates and names parts of circles, including radius, diameter and circumference and knows that the diameter is twice the radius Recognises angles where they meet at a point, are on a straight line, or are vertically opposite, and finds missing angles 	<ul style="list-style-type: none"> Describes positions on the full coordinate grid (all four quadrants) Draws and translates simple shapes on the coordinate plane, and reflects them in the axes 	<ul style="list-style-type: none"> Interprets and constructs pie charts and line graphs and uses these to solve problems Calculates and interprets the mean as an average 	<ul style="list-style-type: none"> Uses simple formulae Generates and describes linear number sequences Expresses missing number problems algebraically Finds pairs of numbers that satisfy an equation involving two unknowns Enumerates possibilities of combinations of two variables 	<ul style="list-style-type: none"> Solves problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts Solves problems involving the calculation of percentages (for example, of measures and such as 15% of 360) and the use of percentages for comparison Solves problems involving similar shapes where the scale factor is known or can be found Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples

