End of Year Expectations

Year 6 Numeracy

Number and Place value				
Number and Place value	**Number – Addition, subtraction multiplication and division**	**Number - Fractions**	**Ratio and proportion**	**Algebra**
Pupils should be taught to: - read, write, order and compare numbers up to 10 000 000 and determine the value of each digit - round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero - solve number and practical problems that involve all of the above.	Pupils should be taught to: - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context - perform mental calculations, including with mixed operations and large numbers - identify common factors, common multiples and prime numbers - use their knowledge of the order of operations to carry out calculations involving the four operations - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Pupils should be taught to: - use common factors to simplify fractions; use common multiples to express fractions in the same denomination - compare and order fractions, including fractions > 1 - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ x ½ = 1/8] - divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] - associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] - identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places - multiply one-digit numbers with up to two decimal places by whole numbers - use written division methods in cases where the answer has up to two decimal places - solve problems which require answers to be rounded to specified degrees of accuracy - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	Pupils should be taught to: - solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison - solve problems involving similar shapes where the scale factor is known or can be found - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	Pupils should be taught to: - use simple formulae - generate and describe linear number sequences - express missing number problems algebraically - find pairs of numbers that satisfy an equation with two unknowns - enumerate possibilities of combinations of two variables.

Geometry and Measure			
Measures	**Geometry – Position of Shapes**	**Geometry – Position and movement**	**Statistics**
Pupils should be taught to: - solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - use, read, write and convert 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 - convert between miles and kilometres - recognise that shapes with the same areas can have different perimeters and vice versa - recognise when it is possible to use formulae for area and volume of shapes - calculate the area of parallelograms and triangles - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].	Pupils should be taught to: - draw 2-D shapes using given dimensions and angles - recognise, describe and build simple 3-D shapes, including making nets - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	Pupils should be taught to: - describe positions on the full coordinate grid (all four quadrants) - draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Pupils should be taught to: - interpret and construct pie charts and line graphs and use these to solve problems - calculate and interpret the mean as an average.