Year 6 End of Year Expectations: Mathematics

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Year 6 Mathematics				
Number and Place Value				
Number and Place Value	Addition, Subtraction, Multiplication and Division	Fractions, Decimals and Percentages	Ratio and Proportion	Algebra
❖ 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.	❖ 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 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, 1/2 × 1/2 = 1/8]. ❖ Divide proper fractions by whole numbers. 1/3 ÷ 2= 1/6 ❖ Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [e.g. 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.	❖ 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.	❖ 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.

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	❖ 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.	❖ Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.		

Year 6 End of Year Expectations: Mathematics

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Year 6 Mathematics			
Geometry and Measures			
Measures	**Geometry – Properties of Shapes**	**Geometry – Position and Movement**	**Statistics**
- 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].	- 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.	- 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.	- Interpret and construct pie charts and line graphs and use these to solve problems. - Calculate and interpret the mean as an average