

Maths Year 6

Number and place value	Addition and Subtraction	Multiplication and Division
<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● perform mental calculations, including with mixed operations and large 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 ● solve problems involving addition, subtraction, multiplication and division ● use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. ● See fractions, decimals and percentages 	<ul style="list-style-type: none"> ● 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 problems involving addition, subtraction, multiplication and division ● use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Fractions including decimals, percentages	Measures	Geometry
<ul style="list-style-type: none"> ● 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 ● divide proper fractions by whole numbers ● associate a fraction with division and calculate decimal fraction equivalents ● 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. 	<ul style="list-style-type: none"> ● 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). 	<ul style="list-style-type: none"> – properties of shape <ul style="list-style-type: none"> ● 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. – position and direction <ul style="list-style-type: none"> ● 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.
Ratio and Proportion	Algebra	Statistics
<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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. <p>Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as:</p> <ul style="list-style-type: none"> ● missing numbers, lengths, coordinates and angles ● formulae in mathematics and science ● equivalent expressions (for example, $a + b = b + a$) ● generalisations of number patterns ● number puzzles (for example, what two numbers can add up to). 	<ul style="list-style-type: none"> ● interpret and construct pie charts and line graphs and use these to solve problems ● calculate and interpret the mean as an average.

Judgements:

Some highlighting (approx 10 – 50%) = **Developing** Good level of highlighting (50-80%) = **Securing** Vast majority of highlighting (80%+10%) = **Exceeding**

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