

Year 6 expectations

	Number and place value	Addition and subtraction, multiplication and division	Fractions (including decimals and percentages)	Ratio and proportion
Year 6 pupils should be taught to:	<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"> • multiply multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to four 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 four 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 	<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 [e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • divide proper fractions by whole numbers [e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$] • associate a fraction with division and calculate decimal fraction equivalents [e.g. 0.375] for a simple fraction [e.g. $\frac{3}{8}$] • 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 	<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 [e.g. 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

		<ul style="list-style-type: none"> involving the four operations • solve problems involving addition, subtraction • 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 	<ul style="list-style-type: none"> • 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 	of fractions and multiples
Measurement	Geometry – properties of shapes	Geometry – position and direction	Geometry – position and direction	Statistics
<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 	<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 	<ul style="list-style-type: none"> • describe positions on the full co-ordinate grid (all four quadrants) • draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes 	<ul style="list-style-type: none"> • graphs and use these to solve problems • calculate and interpret the mean as an average 	<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

<p>decimal notation to up to three decimal places</p> <ul style="list-style-type: none"> • 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 [e.g. mm³ and km³] 	<p>any triangles, quadrilaterals, and regular polygons</p> <ul style="list-style-type: none"> • 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 			<ul style="list-style-type: none"> • enumerate possibilities of combinations of two variables
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