



Year 4 - Overview of Mathematics Standards

Number, Place Value, Estimation and Approximation	
Counting	Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers Count up and down in hundredths
Place Value	Read and write numbers to at least 10 000 Read and write numbers with up to two decimal places. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) Identify the value of each digit to two decimal places Partition numbers in different ways (for example, $2.3 = 2 + 0.3$ and $2.3 = 1 + 1.3$) Identify, represent and estimate numbers using different representations, including the number line
Comparing and ordering	Order and compare numbers beyond 1000 Order and compare numbers with the same number of decimal places up to two decimal places Find 0.1, 1, 10, 100 or 1000 more or less

	than a given number
Rounding, approximation and estimation	Round any number to the nearest 10, 100 or 1000 Round decimals with one decimal place to the nearest whole number
Multiplying by powers of 10	Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
Negative numbers	Count backwards through zero to include negative numbers (see counting)
Sequences and patterns	Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps
Roman numerals	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
Solving number problems	Solve number problems and practical problems that involve all of the above and with increasingly large positive numbers

Addition and Subtraction	
Understanding addition and subtraction	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).
Addition and subtraction facts	Recall and use addition and subtraction facts for 100 Recall and use addition and subtraction facts for multiples of 100 totalling 1000 Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)
Mental methods	Select a mental strategy appropriate for the numbers involved in the calculation. Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place
Written methods	Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction

	where appropriate
Estimating and checking calculations	Estimate and use inverse operations to check answers to a calculation
Solving addition and subtraction problems including those with missing numbers	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. Solve addition and subtraction problems including missing numbers.
Multiplication and Division	
Understanding multiplication and division	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method) Recognise and use factor pairs and commutativity in mental calculations
Multiplication and division facts	Recall and use multiplication and division facts for multiplication tables up to 12X12 Use partitioning to double or halve any number, including decimals to one decimal place
Mental methods	Use place value known and derived facts to multiply and divide mentally,

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	including -multiplying by 0 and 1 -dividing by 1 -multiplying together three number
Written methods	Multiply two-digit and three-digit numbers by a one-digit number using a formal written layout Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
Estimating and checking calculations	Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
Solving multiplication and division problems including those with missing numbers	Solve problems involving multiplying and adding including using the distributive law to multiply two digit numbers by one digit, division(including interpreting remainders), integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Number - fractions (including decimals and percentages)	
Understanding fractions	Understand that a fraction is one whole number divided by another (for example, $\frac{3}{4}$ can be interpreted as $3 \div 4$)
Fractions of objects, shapes and quantities	Recognise, find, and write fractions of a discrete set of objects including those with a range of numerators and denominators Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten
Counting, comparing and ordering fractions	Count on and back in steps of unit fractions Compare and order unit fractions and fractions with the same denominators (including on a number line) (continued from Year 3)
Equivalence	Recognise and show, using diagrams, families of common equivalent fractions Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
Calculating with	Add and subtract fractions with the

fractions	same denominator (using diagrams) r
Solving problems involving fractions, decimals and percentages	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities including non-unit fractions where the answer is a whole number Solve simple measures and money problems involving fractions and decimals to two decimal places
Measurement (length/height, perimeter, area and mass/weight)	
Length / height	Estimate and calculate lengths Compare lengths
Perimeter	Measure and calculate the perimeter of a rectilinear figure(including squares) in centimetres and metres
Area	Understand that area is a measure of surface within a given boundary Find the area of rectilinear shapes by counting squares
Mass	Estimate and calculate mass Compare mass
Capacity / volume	Estimate and calculate volume/capacity

	Compare volume/capacity
Temperature	Order temperatures including those below 0 °C
Conversion	Convert between different units of measure (e.g. kilometre to metre, hour to minute)
Measurement (time)	
Time	Convert between different units of time, e.g. hour to minute Read, write and convert time between analogue and digital 12 and 24-hour clocks
Measurement (money and solving problems)	
Money	Write amounts of money using decimal notation Recognise that one hundred 1p coins are equivalent to £1 and that each coin is $\frac{1}{100}$ of £1 Estimate, compare and calculate money in pounds and pence
Solving problems involving money and measures	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures

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Geometry - properties of shapes	
Properties of shape	<p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <p>Identify lines of symmetry in 2-D shapes presented in different orientations.</p> <p>Complete a simple symmetric figure with respect to a specific line of symmetry</p> <p>Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines</p> <p>Compare and classify geometric shapes based on their properties and sizes.</p>
Angles and rotation	Identify acute and obtuse angles and compare and order angles up to two right angles by size
Geometry - position and direction	
Coordinates (including reflection and translation)	Describe positions on a 2-D grid as coordinates in the first quadrant Plot specified points and draw sides to

	complete a given polygon Describe movements between positions as translations of a given unit to the left/right and up/down
Statistics	
Sorting and classifying	<i>Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</i>
Present and interpret data	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
Solve problems using data	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs