

End of Year 4 Mathematics expectations

Calculation Policy	To add and subtract numbers with three digits using formal written methods
	To add and subtract numbers with up to 4 digits using the formal written methods
	To solve addition and subtraction problems involving numbers with one decimal place
	To multiply 2 digit and three digit numbers by a one-digit number using short multiplication
	To divide numbers up to 3 digits by a one-digit number using short division (exact numbers)
	To divide numbers with a remainder
Mental Calculations	To recall multiplication and division facts for multiplication tables up to 12×12
	To know tricky multiplication facts ($\times 1$, $\times 0$, multiplying together 3 numbers)
	To relate multiplication tables to division facts to aid fluency
	To use the distributive law to break down 1 digit by 2 digit calculations mentally ($6 \times 24 = 6 \times 20 + 6 \times 4$)
	To use commutativity to aid mental calculations ($8 \times 3 = 3 \times 8$ $4 + 9 + 6 + 1 = 9 + 1 + 4 + 6$ $2 \times 6 \times 5 = 10 \times 6$)
	To practise mental methods and use this to derive facts for numbers up to 3 digits (600 \div 3 links to 6 \div 3 links to 2 \times 3)
	To mentally find the difference between numbers by counting up (including change)
	To count in multiples of 6, 7, 9, 25 and 1000
	To quickly calculate complements to 100
	To practice mental methods of addition and subtraction to aid fluency
Calculating	To solve addition and subtraction two-step problems in contexts
	To decide which operation to use and why
	To solve two-step problems in contexts, choosing the appropriate operation (working with increasingly harder numbers)
	To show an understanding of the equals sign by balancing simple equations
	To solve number and practical problems that involve rounding appropriate to this level
	To solve number and practical problems involving large numbers appropriate to this level
	To solve number and practical problems involving negative numbers appropriate to this level
	To apply my knowledge by solving mathematical puzzles and investigations
	To estimate to check answers to a calculation
	To use inverse operations to check answers to a calculation
Place value	To read and write numbers beyond 1000
	To order and compare numbers beyond 1000
	To recognise the place value of each digit in a four-digit number
	To find 1000 more or less than a given number
	To count in 10s and 100s
	To read and write numbers with one or two decimal places
	To order and compare numbers with the same number of decimal places (up to 2d.p.)
	To know the value of all the digits in a number up to 2d.p.
	To multiply and divide one and two digit numbers by 10 and 100
Number system	To complete number sequences
	To identifying the rule for number sequences
	To round any number to the nearest 10
	To round any number to the nearest 100
	To round any number to the nearest 1000
	To round decimals with one decimal place to the nearest whole number
	To identify multiples and factors, of numbers
	To find the first 10 prime numbers
	To count backwards through zero to include negative numbers
	To identify, represent and estimate numbers using different representations
	To read Roman numerals to 100 (I to C)
	To know that over time, the numeral system changed to include the concept of zero and place value
Decimals and Percentages	To use numberlines to connect decimals, numbers and measures
	To count in simple decimals forwards and backwards
	To count up and down in hundredths
	To recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
	To solve simple money problems involving decimals (up to 2.d.p)
	To solve simple measure problems involving decimals (up to 2.d.p)
	To know that per cent relates to number of parts per hundred and recognise the symbol

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Fractions	To make the link between non-unit fractions and multiplication and division of quantities (particularly tenths and hundredths)
	To find unit fractions of numbers
	To find simple non-unit fractions of numbers
	To find $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$ of a number
	To recognise simple equivalent fractions
	To begin to simplify fractions using knowledge of equivalence
	To use numberlines to connect fractions, numbers and measures
	To recognise and write decimal equivalents $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
	To count simple fractions forwards and backwards
	To recognise and write decimal equivalents of any number of tenths and hundredths
	To solve problems involving increasingly harder fractions to calculate quantities (including non-unit fractions where the answer is a whole number)
	To solve simple money and measure problems involving fractions
	To recognise and show families of common equivalent fractions (using diagrams)
	To become familiar with the term improper fraction and recognise pictorial representations
To add fractions with the same denominator (including answers greater than 1)	
To subtract fractions with the same denominator	
Measure	To draw lines accurately to the nearest mm
	To convert between different units of measure
	To read and write standard units (length, mass, volume and time - up to 2 decimal places)
	To solve problems involving different measures (mm, ml, money etc.)
	To compare amounts using different measures (mm, ml, money etc.)
	To estimate using different measures (mm, ml, money etc.)
	To connect estimation and rounding to reading scales on measuring equipment
	To read and write time (analogue, digital and 24 hour)
To convert time between analogue and digital 12- and 24-hour clocks	
To solve problems involving converting units of time (hours to minutes; minutes to seconds; years to months; weeks to days)	
Shape	To compare and classify geometric shapes based on their properties and sizes (including quadrilaterals and triangles)
	To recognise if polygons are regular or irregular
	To recognise parallel and perpendicular lines in shapes
	To use models of 3-D shapes to identify some simple properties
	To draw symmetrical patterns
	To identify lines of symmetry in 2-D shapes presented in different orientations
	To recognize lines of symmetry that do not dissect the original shape
To complete a simple symmetric figure with respect to a specific line of symmetry	
Area and perimeter	To measure the perimeter of a rectangle in centimetres
	To calculate the perimeter of a rectangle in centimetres and metres
	To find the area of a rectangle by counting squares including part squares
	To find the area of an irregular shape by counting squares including part squares
To begin to calculate areas of rectangles through multiplying	
Angles	To know angles are measured in degrees
	To identify acute and obtuse angles
	To compare and order angles up to 180° by size
	To know that there are 90° in a right angle and 180° in a straight line
Position and direction	To describe positions on a 2-D grid as coordinates in the first quadrant
	To read, write and use coordinates
	To draw a pair of axes in one quadrant (with equal scales and integer labels)
	To describe movements between positions as translations (of a given units left/right, up/down)
	To plot specified points to complete a given polygon
Statistics	To present discrete data (including bar charts)
	To interpret discrete data (including bar charts)
	To present continuous data (including time graphs)
	To interpret continuous data (including time graphs)
	To solve comparison, sum and difference problems using information presented in bar charts
	To solve comparison, sum and difference problems using information presented in pictograms tables
To solve comparison, sum and difference problems using information presented in tables	