

Year Four

It is expected that all children will take part in a daily mathematics lesson and additionally take part in 'Quick Maths' activities each day. An extended problem solving lesson or investigation should be planned weekly. N.B. Problem solving and reasoning should continue to be evident in everyday lesson planning when applicable – see examples given below.

Autumn 1	Week	Learning Outcomes
Year 3 Key Concepts	2	Recognise the place value in a three-digit number including tenths;
		Compare and order three-digit number including tenths using <, > and = signs;
		Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
		Add and subtract numbers with up to three digits using formal written methods;
Number and Place Value	1	Count backwards through 0 to include negative numbers
		Recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s)
		Round any number to the nearest 10, 100 or 1,000
		Round decimals with 1 decimal place to the nearest whole number
Addition & Subtraction	1	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
		Estimate and use inverse operations to check answers to a calculation
Multiplication and Division	1	Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers
	1	Recognise and use factor pairs and commutativity in mental calculations
	On-going	Recall multiplication and division facts for multiplication tables up to 12×12
Fractions	1	Recognise and show, using diagrams, families of common equivalent fractions
Problem Solving (Weekly)		Solve problems relating to fractions;
		Pupils solve simple problems in contexts, deciding which of the 4 operations to use and why.
		Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
		Pupils solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers.
		Factors investigation Regular opportunities to demonstrate independent use of previously taught concepts away from the point of teaching.

Autumn 2	Weeks	Learning Outcomes
Number and Place Value	1	Order and compare numbers beyond 1,000
	N/A	Identify, represent and estimate numbers using different representations
Number – multiplication and division	1	Use the distributive law of multiplication to solve TU x U calculations using informal methods
	1	Use the distributive law of multiplication in inverse for division (chunking)
	On-going	Recall multiplication and division facts for multiplication tables up to 12×12
Addition & Subtraction	N/A	Find 1,000 more or less than a given number
	On-going	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency
Fractions	2	Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10
		Recognise and write decimal equivalents of any number of tenths or hundredths
		Compare numbers with the same number of decimal places up to 2 decimal places
		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

Measurement	1	Estimate, compare and calculate different measures, including money in pounds and pence
Statistics	1	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Problem Solving (Weekly)		Solve problems that relate to place value (to hundreds of thousands) counting in 6,7,9,25 and 100s, rounding and Roman Numerals to 100.
		Solve multi-step problems in the context of money.
		Extended number based investigations. Regular opportunities to demonstrate independent use of previously taught concepts away from the point of teaching.

Spring 2		Learning Outcomes
Addition & Subtraction	On-going	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency
Statistics	On-going	Appropriate present, past and future data using appropriate graphical methods, including bar charts and time graphs
Number – multiplication and division	On-going (Weekly)	Recall multiplication and division facts for multiplication tables up to 12×12 concepts away from the point of teaching. Extended number based investigations. Count in multiples 25 and 1,000 (to 99,000) using information presented in bar charts, pictograms, tables and other graphs
Fractions	1	Add and subtract fractions with the same denominator
Measurement	2	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Find the area of rectilinear shapes by counting squares

Spring 1		Learning Outcomes
Number and Place Value	1	Revise place value covered year to date including decimals
Addition & Subtraction	On-going	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency
Number – multiplication and division	1	Use the associative law of multiplication to solve TU x U calculations using informal methods
	On-going	Recall multiplication and division facts for multiplication tables up to 12×12
Fractions	1	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 Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$
Measurement	2	Read, write and convert time between analogue and digital 12- and 24-hour clocks Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days

Geometry – Properties of shapes	2	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Identify acute and obtuse angles and compare and order angles up to 2 right angles by size Identify lines of symmetry in 2-D shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry
Problem Solving (Weekly)		Regular opportunities to demonstrate independent use of previously taught concepts away from the point of teaching. Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects Problem solving and extended investigation of properties of shape.

Summer 1		Learning Outcomes
Multiplication and Division	2	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout
Fractions	1	Solve simple measure and money problems involving fractions and decimals to 2 decimal places
Measurement	1	Convert between different units of measure [for example, kilometre to metre; hour to minute]
Geometry – Position and direction	2	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
Problem Solving (Weekly)		Regular opportunities to demonstrate independent use of previously taught concepts away from the point of teaching. Solve multi-step problems covering all four operations including problems that result in answers involving fractions. Work systematically, to solve increasingly complex logic problems. Solve problems that relate to place value (to hundreds of thousands), counting in 6,7,9,25 and 100s, rounding and Roman Numerals to 100.

Summer 2		Learning Outcomes
Number and Place Value	1	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value
Addition & Subtraction	On-going	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency
	1	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
Multiplication and Division	1	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout Use the distributive law of multiplication in inverse for division (chunking)
Fractions	1	Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 Recognise and write decimal equivalents of any number of tenths or hundredths Compare numbers with the same number of decimal places up to 2 decimal places
Measurement	1	Convert between different units of measure [for example, kilometre to metre; hour to minute]
	2	
Problem Solving (Weekly)		Regular opportunities to demonstrate independent use of previously taught concepts away from the point of teaching. Work systematically to find all possibilities. Solve multi-step problems covering all four operations including problems that result in answers involving fractions. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs