



Year 5 Maths Intent

Autumn														
Autumn	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10	Wk11	Wk12	Wk13	
		Place Value			Addition and Subtraction			Multiplication and Division			Statistics	Revision Week	Assessment week	GAPS
Spring														
Spring	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7		Wk8	Wk9	Wk10		Wk11	Wk12
	Place Value	Fractions including Decimals and Percentages						Multiplication and Division		Revision Week		Assessment Week	GAPS	
Summer														
Summer	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10	Wk11	Wk12	Wk13	
	Measure - Area and Perimeter		Measure - Volume		Measure - Converting Units		Geometry - Properties of shapes		Geometry - Position and Direction		Revision Week	Assessment Week	GAPS	Problem Solving Investigations

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Autumn												
Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10	Wk1 1	Wk1 2	Wk1 3
Place Value			Addition and Subtraction			Multiplication and Division			Statistics			
NC Objectives												
Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit			Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)			Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers			Solve comparison, sum and difference problems using information presented in a line graph			
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000			Add and subtract numbers mentally with increasingly large numbers			Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers			Complete, read and interpret information in tables, including timetables.			
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero			Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy			Establish whether a number up to 100 is prime and recall prime numbers up to 19			Pupils connect their work on coordinates and scales to their interpretation of time graphs.			
Solve number problems and practical problems that involve all of the above			Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy			Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers			They begin to decide which representations of data are most appropriate and why			
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals			Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why			Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)						
Pupils identify the place value in large whole numbers			Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency.			Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context						
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000			They practise mental calculations with increasingly large numbers to aid fluency (for example, 12 462 - 2300 = 10 162)			Multiply and divide numbers mentally drawing upon known facts						
						Pupils practise and extend their use of the formal written methods of short multiplication and short division (see						
										Revision Week	Assessment Week	GAPS

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		Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculation			
		They use and understand the terms factor, multiple and prime, square and cube numbers			
		Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, $98 \div 4 = 98/4 = 24 \text{ r } 2 = 24 \frac{1}{2} = 24.5 \approx 25$).			
		Pupils use multiplication and division as inverses to support the introduction of ratio in year 6, for example, by multiplying and dividing by powers of 10 in scale drawings or by multiplying and dividing by powers of a 1000 in converting between units such as kilometres and metres.			
		Distributivity can be expressed as $a(b + c) = ab + ac$.			
		They understand the terms factor, multiple and prime, square and cube numbers and use them to construct equivalence statements (for example, $4 \times 35 = 2 \times 2 \times 35$; $3 \times 270 = 3 \times 3 \times 9 \times 10 = 9 \times 10$).			
		Pupils use and explain the equals sign to indicate equivalence, including in missing number problems (for example, $13 + 24 = 12 + 25$; $33 = 5 \times$)			

SEND Priority

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Can read and write numbers up to 1 000 000	Can add three digit and extend to four-digit numbers using the formal column method	Can recall and use multiplication and division facts for all the times tables	Can read and interpret timetables and calendars.			
Can order and compare numbers up to 1 000 000	Can subtract three digit and extend to four-digit numbers using the formal column method	Can multiply and divide mentally using known facts	Can construct and interpret line graphs			
Can understand the place value of each digit in numbers up to 1 000 000		Can multiply up to four-digit numbers by one-digit numbers using short multiplication				
		Can divide up to four-digit numbers by one-digit using short division				

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Spring														
Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10	Wk11	Wk12			
Place Value	Fractions including Decimals and Percentages						Multiplication and Division			Revision Week	Assessment Week	GAPS		
NC Objectives														
They should recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule.	Compare and order fractions whose denominators are all multiples of the same number						Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000							
They continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths						Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes							
They should recognise and describe linear number sequences (for example, 3, 3 1/2, 4, 4 1/2...), including those involving fractions and decimals, and find the term-to-term rule in words (for example, add 1/2).	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5]						Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign							
	Add and subtract fractions with the same denominator and denominators that are multiples of the same number						Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.							
	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams													
	Read and write decimal numbers as fractions [for example, 0.71 = 71/100]													
	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents													
	Round decimals with two decimal places to the nearest whole number and to one decimal place													
	Read, write, order and compare numbers with up to three decimal places													
	Solve problems involving number up to three decimal places													

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	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal			
	Solve problems which require knowing percentage and decimal equivalents of $2\frac{1}{4}$, $5\frac{1}{5}$, $5\frac{2}{5}$, $5\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.			
	Pupils connect equivalent fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders, using the number line and other models, and hence move from these to improper and mixed fractions.			
	Pupils connect multiplication by a fraction to using fractions as operators (fractions of), and to division, building on work from previous years. This relates to scaling by simple fractions, including fractions > 1 .			
	Pupils practise adding and subtracting fractions to become fluent through a variety of increasingly complex problems. They extend their understanding of adding and subtracting fractions to calculations that exceed 1 as a mixed number.			
	Pupils continue to practise counting forwards and backwards in simple fractions.			
	Pupils continue to develop their understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities.			
	Pupils extend counting from year 4, using decimals and fractions including bridging zero, for example on a number line.			
	Pupils say, read and write decimal fractions and related tenths, hundredths and thousandths accurately and are confident in checking the reasonableness of their answers to problem.			
	They mentally add and subtract tenths, and one-digit whole numbers and tenths.			
	They practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 (for example, $0.83 + 0.17 = 1$).			
	Pupils should go beyond the measurement and money models of decimals, for example, by solving puzzles involving decimals.			
	Pupils should make connections between percentages, fractions and decimals (for example, 100% represents a whole quantity and 1% is $\frac{1}{100}$, 50% is $\frac{50}{100}$, 25% is $\frac{25}{100}$) and relate this to finding 'fractions of'.			
SEND Priority				
They should recognise and describe linear number sequences, including those involving fractions and decimals	Can compare and order fractions whose denominators are multiples of the same number	Can multiply and divide whole numbers and decimals by 10, 100 and 1000		

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	Can recognise mixed numbers and improper fractions	Can solve problems choosing an appropriate mental or written strategy (all four operations)			
	Can add and subtract fractions with the same denominator	Can solve two-step problems choosing appropriate operations (all four operations)			
	Can read and write decimal numbers as fractions.	Can use inverse operations to find missing numbers, including decimals			
	Can write percentages as fractions with denominator 100 as part of a decimal	Can 'undo' a two-step problem			
	Can recognise approximate proportions of a whole number using percentages				
	Can recognise simple equivalence between fractions, decimals and percentages				

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Summer															
Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10	Wk11	Wk12	Wk13			
Measure - Area and Perimeter		Measure - Volume		Measure - Converting Units		Geometry - Properties of Shape		Geometry - Position and Direction		Revision	Assessment Week	GAPS	Problem Solving Investigations		
NC Objectives															
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres		Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]		Convert between different units of metric measure (for example, kilometre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)		Identify 3-d shapes, including cubes and other cuboids, from 2-d representations		Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.							
Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes		Use all four operations to solve problems involving measure [for example volume using decimal notation, including scaling		Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints		Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles		Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-d grid and coordinates in the first quadrant. Reflection should							

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				be in lines that are parallel to the axes.				
Use all four operations to solve problems involving measure [for example, length, mass, money] using decimal notation, including scaling		Solve problems involving converting between units of time	Draw given angles, and measure them in degrees (o) Identify: Angles at a point and one whole turn (total 360o) Angles at a point on a straight line and a turn (total 180o) Other multiples of 90o					
Pupils calculate the perimeter of rectangles and related composite shapes, including using the relations of perimeter or area to find unknown lengths. Missing measures questions such as these can be expressed algebraically, for example $4 + 2b = 20$ for a rectangle of sides 2 cm and b cm and perimeter of 20cm.		Pupils use their knowledge of place value and multiplication and division to convert between standard units.	Use the properties of rectangles to deduce related facts and find missing lengths and angles					
Pupils calculate the area from scale drawings using given measurements.		Pupils use all four operations in problems involving time and money, including conversions (for example, days to weeks, expressing the answer as weeks and days).	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.					
			Pupils become accurate in drawing lines with a ruler to the nearest millimetre, and measuring with a protractor. They use conventional					

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			markings for parallel lines and right angles.					
			Pupils use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals, for example using dynamic geometry ICT tools.					
			Pupils use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems.					
SEND Priority								
Can measure and calculate the area and perimeter of simple shapes.	Can estimate volume	Can interpret, with appropriate accuracy, numbers on scales and a range of measuring instruments	Can identify 3D shapes from 2D representations	Can identify shapes after reflection and translation.				
		Use place value to convert units of metric measurement.	Can estimate and compare acute, obtuse and reflex angles					