Milton Mount Primary School

Maths Curriculum Mapping and Progression

EYFS, Key Stage 1 & Key Stage 2

KNOW MORE

Through carefully structured lessons, children immerse themselves in new learning using practical resources before moving to pictorial and abstract concepts. Throughout all areas of maths, concrete resources allow children to uncover the structure of the concepts being taught, allowing links to be made across the curriculum.

REMEMBER MORE

High quality maths teaching will enable the children to build on something that has already been mastered. Children will develop an automaticity with number facts and develop number sense - This is supported through Mastering Number.

EXPERIENCE MORE

Practice is an important aspect to embed and maintain fluency. Oracy plays an important role in the maths lessons. Children are able to share, discuss and justify, problem solve and reason. As teachers, we focus on questioning and key vocabulary to extend, deepen and move the learning on.

CONSIDER MORE

Children will have a conceptual understanding of '*why that happens…'*. They will be able to reason about a concept and make connections. They will be reflective decision makers who are able to reason, challenge and discuss their views with confidence.

EYFS Overview

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	®**Subitise objects & sounds** → **Subitise within 5** focusing on die patterns ®Introduction to 2D shape through 2D shape group names: circles, triangles, rectangles, squares, pentagons	® Focus on the 'five-ness of 5' ®Practise object counting skills ®Match numerals to quantities within 10 ®Verbal counting beyond 20 ®Focus on ordinality & see that each number is one more than the previous ®SSM through our 'What happened once upon a time?' topic ®Size comparisons through Stories: Goldilocks & The 3 Billy Goats Gruff ®Intro to measure using non-standard units in our 'huff puff test' ® Positional language when drawing the inside of our homes	→ Explore how all numbers are made of 1s → Explore the concept of '**whole' and 'part'** → Focus on the **composition of 3, 4 and 5** → Focus on 6 and 7 as '**5 and a bit'** SSM in our continuous provision: See Maths provision map for details		→ **Comparison of sets** - 'just by looking' → **Comparison of sets** - by matching ®Use the **language of comparison**: more than, fewer than, an equal number	Assessment Week	Maths songs Size: When Goldilocks went to the house… Counting songs: 5 little ducks, 5 little speckled frogs, 10 green bottles, 1,2,3,4,5, 10 little monkeys
Spring	®**Subitise within 5** focusing on die patterns **White Rose Maths:** ®Compare, size, Mass & Capacity	®**Counting**: focus on ordinality ®See that each number is **one more** than the previous number ®Focus on the 'staircase' pattern and **ordering numbers** **White Rose Maths:** ®Circles and triangles ®Positional language	®Focus on **5** ®Focus on **6** and **7** as '**5 and a bit'** ®Compare sets & use language of comparison: more than, fewer than, an equal number to Make unequal sets equal ®**Doubles** ® **Odd and even** numbers **White Rose Maths:** ®Shapes with 4 sides ®Time	Assessment Week	®Focus on **ordering of numbers to 8** ®Use language of **less than** **White Rose Maths:** ®Compare mass (2) ®Compare capacity (2)		
Summer	®**Subitising to 6**, including unstructured arrangements ®Introduce the **rekenrek** **White Rose Maths:** ®Length & Height ®Time	®**Counting larger sets** and things that cannot be seen ®Review & Assess - Number patterns ®Review & Assess – Counting **White Rose Maths:** ®3D Shapes ®Spatial Awareness ®Patterns	®Composition '**5 and a bit'** ® Automatic recall of **bonds to 5** ®Review and Assess **Composition of 10** **White Rose Maths:** ®Spatial reasoning ®Match, rotate, manipulate shapes		Assessment Week	®Comparison linked to ordinality ®Review & Assess - Comparison	

Year 1 Overview

White Rose number of small steps per block

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12/13

Autumn	Place Value (within 10) Small steps:15		Addition and Subtraction (within 10) Small steps:17		Assessment Week	Geometry: Shape Small steps 5	
Spring	Place Value (within 20) Small steps:12	Addition and Subtraction (within 20) Small steps:10	Place Value (within 50) Small steps:9	Assessment Week	Measurement: Length and Height Small steps: 3	Measurement: Mass and Volume Small steps: 7	
Summer	Multiplication and Division Small steps: 9	Fractions Small steps: 8	Geometry Position and Direction Small Steps 3	Place Value (within 100) Small steps:7	Measures: Money Small steps:4	Assessment Week	Measures: Time Small steps:6	Consolidation

Year 2 Overview

White Rose number of small steps per block

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12/13
Autumn	Number: Place Value Small steps:16				Addition and Subtraction Small steps:16					Geometry: Shape Small steps 12	Assessment Week	Geometry: Shape Small steps 12
Spring	Measurement: Money Small steps:10		Multiplication and division Small steps: 17					Measurement: Length and Height Small steps: 5	Assessment Week	Measurement: Length and Height Small steps: 5	Measurement: Mass, capacity and Temperature Small steps: 9	
Summer	Fractions Small steps 15				Measurement Time Small steps 7			Statistics Small steps 7	Assessment Week	Geometry: Position and Direction Small steps: 5	Consolidation	

Year 3 Overview

White Rose number of small steps per block

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12/13/14

Autumn	Number: Place Value Small steps 14	Addition and Subtraction Small Steps 22		Multiplication and Division Small steps 15	Assessment Week	Multiplication and Division Small steps 15	
Spring	Multiplication and Division Small steps 11	Measurement: Length and Perimeter Small steps 12	Fractions A Small steps 10	Assessment Week	Fractions A Small steps 10	Measurement: Mass and capacity Small steps: 11	
Summer	Fractions B Small steps 6	Measures: Money Small steps 5	Measurement Time Small steps 11	Geometry: Position and Direction Small steps: 10	Assessment Week	Statistics Small steps 6	Consolidation

Year 4 Overview

White Rose number of small steps per block

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12/13/14	
Autumn	Number: Place Value Small steps 17				Addition and Subtraction Small Steps 10			Measures Area Small steps 4	Multiplication and Division A Small steps 13		Assessment Week	Multiplication and Division A Small steps 13	Consolidation
Spring	Multiplication and Division B Small steps 15			Measurement: Length and Perimeter Small steps 9	Fractions A Small steps 15				Assessment Week	Fractions A Small steps 15	Decimals A Small steps: 10		
Summer	Decimals A Small steps: 10		Measures: Money Small steps 6		Measures: Time Small steps 5		Geometry: Properties of shape Small steps 8		Statistics Small steps 6	Assessment Week	Geometry: Position and Direction Small steps 5		Consolidation

Year 5 Overview

White Rose number of small steps per block

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12/13/14
Autumn	Place Value Small steps 14			Addition and Subtraction Small steps 5		Multiplication and Division A Small steps 10			Fractions A Small steps 17		Assessment Week	Fractions A Small steps 17
Spring	Multiplication and Division B Small steps 11			Fractions B Small steps 7		Decimals and Percentages Small steps 15			Assessment Week	Measurement Perimeter and Area Small steps 6		Statistics Small steps 5
Summer	Geometry: Property of shape Small steps 10			Geometry: Position and Direction Small steps 6		Decimals Small steps 12			Negative numbers Small steps 5	Assessment Week	Measurement Converting Units Small Steps 6	Measures Volume Small steps 4

Year 6 Overview

White Rose number of small steps per block

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12/13/14
Autumn	Number - Place Value WR Small steps: 8		Number: Add, Sub, Mult and Div WR small steps 17					Fractions A WR Small steps 9		Measures Convert units WR Small steps 5	Assessment Week	Fractions B WR Small steps 7
Spring	Ratio WR small steps 10		Algebra WR Small steps 10		Decimals WR Small steps 9		FDP WR Small steps 9		Assessment Week	Measurement: Perimeter, Area and Volume WR Small steps 8		Statistics WR Small steps 6
Summer	Geometry: Property of shape Small steps 11			Geometry Position and Direction Small steps 5	Consolidation	THEMED PROJECTS, CONSOLIDATIONAND PROBLEM SOLVING						

Progression of Maths

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	Pupils will continue to develop their counting skills, counting larger sets as well as counting actions and sounds. They will verbally count beyond 20 recognising the pattern of the counting system.	Count within 100, forwards and backwards, starting with any number.	Read and write numbers to at least 100 in numerals and words	Read, write compare and order numbers up to 1000 in numerals and words	Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.	Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
			Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward		Count in multiples of 6, 7, 9, 25 and 1,000	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	
	Pupils will compare quantities and numbers up to 10, including sets of objects which have different attributes. Pupils will explore a range of representations of numbers e.g. numicon, number blocks, fingers They will recognise numerals to 10.	Read and write numbers from 1 to 20 in numerals and words Identify and represent numbers using objects and pictorial representations	Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. Use these facts to solve problems	Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.	Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning.	Read, write, order and compare numbers up to 1 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning	Read, write, order and compare numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.
	Pupils will continue to develop a sense of magnitude, e.g. knowing that 8 is	Reason about the location of numbers to 20 within the linear number system,	Reason about the location of any 2-digit number in the linear number system,	Reason about the location of any 3-digit number in the linear number system,	Reason about the location of any 4-digit number in the linear number system,	Round any number up to 1,000,000 to the nearest 10, 100,	Reason about the location of any number up to 10 million, including decimal fractions, in the linear

	quite a lot more than 2, but 4 is only a little bit more than 2	including comparing using < > and = Identify one more and one less than a given number	including identifying the previous and next multiple of 10.	including identifying the previous and next multiple of 100 and 10	including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	1,000, 10,000 and 100,000 solve number problems and practical problems that involve all of the above	number system, and round numbers, as appropriate, including in contexts.
		Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples (Also included in multiplication and division}		Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number (Also included in multiplication and division)	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	Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	
				Solve number problems and practical problems	Count backwards through 0 to include negative numbers	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0.	Solve problems using negative numbers in context, and calculate intervals across 0
	Pupils will continue to identify when sets can be subitised and when counting is necessary Develop conceptual subitising skills including when using a 5 and 10 frame and a Rekenrek.	Continue to secure their subitising skills while looking at the composition of number	Identify, represent and estimate numbers using different representations, including the number line Compare and order numbers from 0 up to 100; use <, > and = signs	Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using different representations		
				Order and compare numbers beyond 1,000	Solve number and practical problems that involve all of the above and with increasingly large positive numbers		

Addition and Subtraction	Pupils will explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame	Using number bonds develop fluency in addition and subtraction facts within 20.	solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures and applying their increasing knowledge of mental and written methods	Secure fluency in addition and subtraction facts that bridge 10, through continued practice. Add and subtract up to three-digit numbers using columnar methods.	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	Pupils will begin to generalise about 'one more than' and 'one less than' numbers within 10	Add and subtract one digit and two digit numbers to 20 including zero	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.	Estimate the answer to a calculation and use inverse operations to check answers. Solve missing number	Estimate and use inverse operations to check answers to a calculation	Add and subtract numbers mentally with increasingly large numbers	Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
	Begin to use vocabulary involved with addition and subtraction. They will have a deep understanding of number to 10, including the composition of each number.	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as 7 = ? - 9	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers	Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
			Show that addition of two numbers can be done in any order (commutative) and subtraction of one	Manipulate the additive relationship: Understand the inverse relationship between addition and		Use rounding to check answers to calculations and determine, in the	

			number from another cannot Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.		context of a problem, levels of accuracy	
Multiplication and Division	Pupils will explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame	Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Recall multiplication facts, and corresponding division facts, in the 3, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Recall multiplication and division facts up to 12 x 12, and recognise products in multiplication tables as multiples of the corresponding number.	Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.
					Recognise and use factor pairs and commutativity in mental calculations	Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers	Identify common factors, common multiples and prime numbers
			Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	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	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers Establish whether a number up to 100 is prime and recall prime numbers up to 19	

			Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10)	Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.	Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	Solve problems involving similar shapes and numbers where the scale factor is known or can be found.
	They will automatically recall number bonds to 5 and some number bonds to 10. Including double facts.	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	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	Solve problems involving addition, subtraction, multiplication and division, including using their knowledge of factors and multiples, squares and cubes and understanding the meaning of the equals sign and scaling by simple fractions and problems involving simple rates	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
	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.				Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	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	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
						Multiply and divide numbers mentally, drawing upon known facts	Perform mental calculations, including with mixed operations and large numbers

						Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	Use their knowledge of the order of operations to carry out calculations involving the 4 operations
						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	Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
				Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.	Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
		Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Solve 2D by 1D problems, including missing number problems, involving multiplication and division	Solve division problems, with 2-digit dividends and 1-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.	Solve problems involving multiplication and division of up to 4D by 1D, including using their knowledge of factors and multiples, squares and cubes	Solve multiplication and division of up to 4D by 2D multi-step problems in contexts, deciding which operations and methods to use and why
FDP		Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity. Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	Recognise, find, name and write fractions 1/2,1/3, ¼ and 3/4 of a length, shape, set of objects or quantity	Reason about the location of any fraction within 1 in the linear number system.	Reason about the location of mixed numbers in the linear number system.	Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

					Recognise and show, using diagrams, families of common equivalent fractions.	Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Compare and order fractions, including fractions >1
			Write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2	Add and subtract fractions with the same denominator, within 1.	Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	Add and subtract fractions with the same denominator, and denominators that are multiples of the same number Recall decimal fraction equivalents for 1/2, 1/4, 1/5 and 1/10, and for multiples of these proper fractions.	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
				Compare and order unit fractions, and fractions with the same denominators	Convert mixed numbers to improper fractions and vice versa.	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number E.g. 2/5 + 4/5 = 6/5 = 1 1/5	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]

					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 problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25	Solve problems which require answers to be rounded to specified degrees of accuracy
				Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10	Convert between units of measure, including using common decimals and fractions.	Recall and use equivalences between simple fractions, decimals and percentages, including in different context
				Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Recognise and write decimal equivalents of any number of tenths or hundreds recognise and write decimal equivalents to 1/4, 1/2 , 3/4	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]
				Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	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	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction and as a decimal. **%**	Recall and use equivalences between simple fractions, decimals and percentages, including in different context Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison **%**

				Recognise and show, using diagrams, equivalent fractions with small denominators	Compare numbers with the same number of decimal places up to 2 decimal places Round decimals with 1DP to the nearest whole number	Read and write decimal numbers as fractions e.g. 0.71 = 71/100 Read, write, order and compare numbers with up to 3 decimal places Solve problems involving number up to 3 decimal places	Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places Multiply one-digit numbers with up to 2 decimal places by whole numbers
						Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place	Use written division methods in cases where the answer has up to 2 decimal places Solve problems which require answers to be rounded to specified degrees of accuracy
Ratio and Proportion							Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts Solve problems involving ratio relationships.
Measurement	Compare length, weight and capacity. Use comparative language *this is heavier than, this is longer/shorter than*	Compare, describe and solve practical problems for: lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] mass/weight [e.g. heavy/light, heavier than, lighter than] capacity and volume [e.g. full/empty, more	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales,	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure [for example, kilometre to metre; hour to minute]	Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]	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 decimal notation to up to 3 decimal places.

		than, less than, half, half full, quarter] Time (quicker/slower)	thermometers and measuring vessels				
		Measure and begin to record all of the above	Compare and order lengths, mass, volume/capacity and record results using <, > and =		Solve simple measure and money problems involving fractions and decimals to 2 decimal places	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Convert between miles and kilometres
						Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate
Time	Begin to use every day language relating to time e.g. first, next, last, morning, days of the week, months of the year	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight	Read, write and convert time between analogue and digital 12- and 24-hour clocks		
		Recognise and use language relating to dates, including days of the week, weeks, months and years Sequence events in chronological order using language [for example, before and after, next, first, today,	Compare and sequence intervals of time Know the number of minutes in an hour and the number of hours in a day	Know the number of seconds in a minute and the number of days in each month, year and leap year	Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days	Solve problems involving converting between units of time	Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa.

		yesterday, tomorrow, morning, afternoon and evening]					
Roman Numerals				Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	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.	Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	
Perimeter				Measure the perimeter of simple 2-D shapes	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Recognise that shapes with the same areas can have different perimeters and vice versa
Area					Find the area of rectilinear shapes by counting squares	Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes	Recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles
Volume						Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]
Money		Recognise and know the value of different denominations of coins and notes	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Estimate, compare and calculate different measures, including money in pounds and pence		

			Find different combinations of coins that equal the same amounts of money Solve problems that involve giving change.		Solve simple measure and money problems involving fractions and decimals to 2 decimal places		
Geometry – Properties of Shape	Investigate and manipulate 2D and 3D shapes and begin to know how shapes can be combined to make new shapes. E.g. 2 triangles can be put together to make a square.	Recognise and name common 2-D and 3-D shapes	Identify, compare and describe the properties of 2-D and 3D shapes (Inc Sides, Lines of symmetry, edges, vertices and faces)	Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Draw 2D shapes using given dimensions and angles
	Begin to know the names of simple 2D and 3D shapes		Identify 2D shapes on the surface of 3D shapes		Identify lines of symmetry in 2-D shapes presented in different orientations	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Recognise, describe and build simple 3-D shapes, including making nets
					Complete a simple symmetric figure with respect to a specific line of symmetry	Use the properties of rectangles to deduce related facts and find missing lengths and angles	
				Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle	Identify acute and obtuse angles and compare and order angles up to 2 right angles by size	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (°) identify: angles at a point and 1 whole turn (total 360°)	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

						angles at a point on a straight line and half a turn (total 180°) other multiples of 90°	
							Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
Position and Direction	Begin to use the vocabulary of P and D e.g above, behind, below etc	Describe position, direction and movement, including whole, half, quarter and three-quarter turns	use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Describe positions on a 2-D grid as coordinates in the first quadrant Describe movements between positions as translations of a given unit to the left/right and up/down Plot specified points and draw sides to complete a given polygon	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	Describe positions on the full coordinate grid (all 4 quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
			Order and arrange combinations of mathematical objects in patterns and sequences.				
Statistics			Interpret and construct simple pictograms, tally charts, block diagrams and tables	Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Solve comparison, sum and difference problems using information presented in a line graph	Interpret and construct pie charts and line graphs and use these to solve problems
			Ask and answer simple questions by counting the number of objects	Solve one-step and two-step questions [for example 'How	Solve comparison, sum and difference problems using	Complete, read and interpret information	Calculate and interpret the mean as an average

			in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data.	many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	information presented in bar charts, pictograms, tables and other graphs	in tables, including timetables	
Algebra	To create a simple repeating pattern involving shape and number						Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with 2 unknowns Enumerate possibilities of combinations of 2 variables

EYFS Maths Vocabulary

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	General/problem solving
Number One, two, three to ten and beyond None Count on/up/to/from/down Before/after More, less, many, few, fewer, fewest, smaller, smallest Equal to, the same as Odd, even Digit Numeral Compare Order Size Between, halfway between	Number line Add, more, plus, make, sum, total, altogether Double Halve, half Equals, is the same as (including the equal sign =) How many more to make…? How many more is… ? How much more is …? Subtract, take away, minus	Odd, even Double, half Share, share equally Group in pairs Equal groups of Divide	Full, half, empty Holds Container Weigh, weighs, balance Heavy, heavier, heaviest, light, lightest, lighter Scales Time Days of the week Seasons Months, years, weekend Birthday, holiday Morning, afternoon, evening, night, bedtime Dinnertime Playtime Today Yesterday Tomorrow Before, after, next, last Quickest, fastest, slowest Clock Once First, second, third… Estimate Too many/few Money, coin, penny, pence, price, cost, sell, spend Total	Over, under, underneath, above, below, top, bottom, side On, in, outside, inside In front, behind Front, back, Before, after Besides, next to Middle Up, down, forwards, backwards, sides way Close, far Through Towards, away from Side, roll, turn	Sort Cube, cuboid, pyramid, sphere, cone, cylinder, circle, square, triangle Shape Flat, curved, straight, round, solid, corner Face, side Make, build, draw	Whole Equal One half	Look at, point to What comes next? Find, use, make, build Tick , draw a line, explain, show me, Say, think, imagine, remember Cost Work out Number line, Number track Number square Number cards

Year 1 New Maths Vocabulary - Words in blue are NOT number based

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	General/problem solving
number	number bonds, number line	odd, even	full, half full, empty, holds	position	group, sort shape	whole	say, think, imagine, remember
zero, one, two, three to twenty, and beyond	add, more, plus, make, sum, total, altogether	count in twos, threes, fives	container	over, under, underneath, above, below, top, bottom, side	cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square	equal parts, four equal parts	start from, start with, start at
none	inverse	count in tens (forwards from/backwards from)	weigh, weighs, balances	on, in, outside, inside	flat, curved, straight, round	one half, two halves	look at, point to
count (on/up/to/from/ down)	double, near double	how many times?	heavy, heavier, heaviest, light, lighter, lightest	around, in front, behind	hollow, solid	a quarter, two quarters	put, place, fit
before, after	half, halve	lots of, groups of	scales	front, back	corner (point, pointed)		arrange, rearrange
more, less, many, few, fewer, least, fewest, smallest, greater, lesser	equals, is the same as (including equals sign)	once, twice, three times, five times	Time, days of the week: Monday, Tuesday, etc.	before, after	face, side, edge		change, change over
equal to, the same as	difference between	multiple of, times, multiply, multiply by	night, midnight	beside, next to, opposite	make, build, draw		split, separate
odd, even	how many more to make...?, how many more is .. than…, how much more is …?	repeated addition	Bedtime, dinnertime, playtime	apart			carry on, continue, repeat, what comes next?
Pair	Subtract, take away, minus	Array, row,	Today, yesterday, tomorrow	between, middle, edge, centre			find, choose, collect, use, make, build
units, ones,	How many fewer is…than..?, how much less is..?	column	Before, after Next, last, now, soon, early, late	corner			Tell me, describe, pick out, talk about, explain, show me

tens		Double, halve	quickly , fast, faster, fastest slow, slower, slowest, slowly	Direction			Read, write, record, trace, copy, complete, finish, end
Ten more/less		Share, share	Old, older, oldest, new, newer, newest	Journey			Fill in, shade, colour, tick, cross, draw, draw a line between, join (up), ring, arrow
Digit		equally	Clock, watch, hands Hour, o'clock, half past	Left, right, up, down, forwards, backwards, sideways			Count, work out, answer, check same number(s)/different number(s)/missing number(s)
Numeral		Group in pairs,	How long ago?, how long will it be to…?, how long will it take to…?	Across			Abacus, counters, cubes, blocks, rods, die, dice, dominoes, pegs, peg board
Figure(s)		Equal groups of	Always, never, often, sometimes, usually	Close, far, near			Same way, different Way, another way
Compare		Divide, divided by	Once, twice, first, second, third, etc.	Along, through			
(In) order/a different order		Left, left over	Estimate, close to, about the same, just over, just under	To, from, towards, away from			
Size			Length, width, height, depth	Movement			
Value			Long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest	whole turn, half turn			
Between, halfway between			Metre, ruler, metre stick				
Above, below			Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear(er), costs more, costs less, cheaper, costs the same as				

New maths vocabulary for year 2

This document sets out maths vocabulary under the new National Curriculum. The tables show new vocabulary introduced in year 2. The list is intended as a guide as to what pupils should know and are not exhaustive. Key terms may be introduced earlier as a challenge for learners.

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	Data/statistics	General/problem solving
numbers to one hundred			quarter past/to	rotation	size	three quarters,	count, tally, sort	predict
hundreds			m/km, g/kg, ml/l	clockwise, anticlockwise	bigger, larger, smaller	one third, a third	vote	describe the pattern, describe the rule
partition, recombine			temperature (degrees)	straight line	symmetrical, line of symmetry	equivalence, equivalent	graph, block graph, pictogram,	find, find all, find different
hundred more/less				ninety-degree turn, right angle	fold		represent	investigate
					match		group, set, list, table	
					mirror line, reflection		label, title	
					pattern, repeating pattern		most popular, most common, least popular, least common	

New maths vocabulary for year 3

This document sets out maths vocabulary under the new National Curriculum. The tables show new vocabulary introduced in year 3. The list is intended as a guide as to what pupils should know and are not exhaustive. Key terms may be introduced earlier as a challenge for learners.

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	Data/statistics	General/problem solving
numbers to one thousand	numbers to one thousand	dividend divisor quotient multiplicand (Factor) multiplier product	leap year	greater/less than ninety degrees	horizontal, vertical, perpendicular and parallel lines	numerator denominator	chart, bar chart	
	Subtrahend minuend	multiples of four, eight, fifty and one hundred	twelve hour/twenty-four- hour clock	orientation (same orientation, different orientation)		unit fraction, non -unit fraction	frequency table carroll diagram venn diagram	
	addend	scale up	Roman numerals I to XIII			compare and order	axis, axes	
						tenths	diagram	

New maths vocabulary for year 4

This document sets out maths vocabulary under the new National Curriculum. The tables show new vocabulary introduced in year 4. The list is intended as a guide as to what pupils should know and are not exhaustive. Key terms may be introduced earlier as a challenge for learners.

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions/ decimals	Data/statistics	General/problem solving
tenths, hundredths decimal (places)		multiplication facts (up to 12x12)	convert	coordinates	quadrilaterals	Equivalent decimals and fractions	Continuous date	
round (to nearest)		division facts		translation	triangles		Line graph	
thousand more/less than		inverse		quadrant	right angles acute angles obtuse angles			
negative integers		derive		x-axis y-axis				
count through zero				perimeter and area				
Roman numerals (I to C)								

New maths vocabulary for year 5

This document sets out maths vocabulary under the new National Curriculum. The tables show new vocabulary introduced in year 5. The list is intended as a guide as to what pupils should know and are not exhaustive. Key terms may be introduced earlier as a challenge for learners.

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions/ Decimals/ percentages	Data/statistics	General/problem solving
powers of 10	efficient written method	factor pairs	volume	reflex angle	regular polygons	proper fractions, improper fractions		
		composite numbers	imperial units metric units	dimensions	irregular polygons	mixed numbers		
		prime numbers				percentage		
		prime factors				half, quarter, fifth, two fifths, four fifths		
		squared numbers				ratio		
		cubed numbers				proportion		
		formal written method						

New maths vocabulary for year 6

This document sets out maths vocabulary under the new National Curriculum. The tables show new vocabulary introduced in year 6. The list is intended as a guide as to what pupils should know and are not exhaustive. Key terms may be introduced earlier as a challenge for learners.

Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions/ Decimals/ percentages	Algebra	Data/statistics
numbers to ten million	order of operations	order of operations		four quadrants for coordinates	vertically opposite angles	degree of accuracy	linear number sequence	mean
		common factors			circumference	simplify	substitute	Pie Chart
		common multiples			radius		variables	Construct
					diameter		symbol	
							known values	

The development of SMSC and the promotion of British Values in the Maths Curriculum

Spiritual	Moral
Children: • Reflect on their experiences and learning and express their opinions about their own and their peers'work. • Show they understand human feelings and emotions and how these affect others e.g. enjoyment, disappointment in their own and others' work. • Develop aesthetic appreciation – through theme, style and resources • Respect others e.g. feedback from peers, or teachers is listened to and considered sensibly. Children are able to accept that often, making mistakes marks the beginning of learning. • Accommodate differences and enable others to succeed – children are supportive of each other when working individually and collaboratively. • Ask questions, offer ideas and make connections e.g. in problem solving across the school. • Ask and answer questions about the starting points for their work, and develop their ideas. • Review what they and others have done and say what they think and feel about it. • Identify what they might change in their current work or develop in their future work • Engage with depth of thinking and problem solving. •Delve deeper into their understanding of mathematics and how it relates to the world around them.	Children: • Model positive relationships and interactions e.g. fairness, integrity, respect for people, resolution of differences of opinion/ideas - sharing equipment and ideas. • Recognise and respect rules and codes of good practice when using equipment. • Demonstrate self-discipline – e.g. children follow success criteria and methods for a particular task. • Develop knowledge and understanding of operations and mathematical concepts identifying how problems are solved and answers communicated • Are encouraged to accept responsibility for the behaviour and respect for others within the lessons, and understand the consequences of their actions on themselves and others around them. • Are encouraged to develop self-confidence within mathematics, and to build their self-esteem within the subject.
Social	**Cultural**
Children: • Work cooperatively with partners and in structured and unstructured groups to solve problems. • Demonstrate personal qualities such as thoughtfulness, honesty, respect for difference, moral principles, independence, inter-dependence • Participate in school events and local competitions in the wider community e.g. …Apprentice Fair • Demonstrate leadership skills by acting as an "maths expert" in class • Investigate the possibilities of a range of ways of solving problems • Use verbal reasoning and discuss their problem-solving methods and mistakes • Work to solve problems cooperatively and think creatively • Explain and present ideas • Communicate with others and explain concepts to each other	Children: • Understand the role of the mathematician in a range of cultures, times and contexts. • Understand how mathematics is applied in different cultures such as Rangoli patterns, symmetry, tessellations and Islamic geometric patterns. • Convert between different measures • Analyse data to enable them to make sense of vast amounts of data available in the modern world around them
British Values	

Children

- Take part in pupil voice, data collection for votes, etc
- School council to conduct voting exercises where data collection is involved (e.g. voting for the colours of the friendship bench).
- Take turns to listen to everyone speak and give their answers and explanations.
- Take into account the views of others in shared activities.
- Undertake safe practices, following class rules during tasks and activities for the
- benefit of all.
- Understand the consequences if rules are not followed.
- Follow rules when playing maths games.
- Apply rules in calculations, algebra and geometry.
- Work within boundaries to make safe choices during practical activities.
- Make own choices within data handling activities.
- Teamwork in group work.
- Respect other children's views which may differ from their own (e.g., the best way/most efficient way to solve a problem).
- Use maths to learn about different faiths and cultures around the world (e.g., looking at patterns/shapes within Islam/Hindu religions).
- Support pupils to develop their self-knowledge, self-esteem, self-confidence in maths.
- Allow children to make mistakes and learn from them.
- Behave appropriately, allowing everyone the opportunity to work effectively.
- Understand the importance of taking turns and sharing equipment.
- Review each other's work respectfully using school talk rules.
- Work collaboratively on projects/problems as well as help and advise others.
- Model freedom of speech. Devising own ways to present ideas and solutions.
- Challenge stereotypes (e.g., assemblies about maths in the wider world and how women can be engineers / men can be hairdressers etc.).