MATHEMATICS



## Mathematics Long Term Plan Year 4

Updated June 2023

To be read in conjunction with the Calculation Policy



	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Autumn	NUMBER Place Value		NUMBER Addition and Subtraction Including explicit teaching of mental methods		PiXL Assessments	MEASUREMENT Area	Multiplica Including	explicit te ntal metho Math	eaching of	NUMBER Multiplication and Division B			
Spring	NUMBER Multiplication and Division B continued MEASUREMENT Length and Perimeter		NUMBER Fractions	PiXL Assessments	NUN Frac conti	tions	NUMBER Decimals A		Statistics				
Summer	NUMBER Decimals B Woney		GEOM Sha		GEOMETRY Position and Direction	PiXL Assessments	Venie		ysis Focus				

## Sear 4 Medium Term Plan

					Weeks 10-12		
Autumn	Weeks 1-4	Weeks 5-7	Week 8	Week 9		Week 13	
Term	WEEKS 1-T	WEEKS S-7	WEER O	WEER J	Maths Week England	WEER IS	
Domain	Place Value	Addition and Subtraction		Area	Multiplication and Division A	Multiplication and Division B	
NC Objective	<ul> <li>* Identify, represent and estimate numbers using different representations</li> <li>* Count in multiples of 6, 7, 9, 25 and 1,000</li> <li>* Recognise the place value of each digit in a 4- digit number (thousands, hundreds, tens and ones)</li> <li>* Find 1,000 more or less than a given number</li> <li>* Order and compare numbers beyond 1,000</li> <li>* 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</li> <li>* Round any number to the nearest 10, 100 or 1,000</li> <li>Ensure negative numbers are introduced in Year 4.</li> <li>* Count backwards through zero to include negative numbers</li> <li>Ensure coverage of:</li> <li>* Solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> </ul>	<ul> <li>* Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li>* Solve addition and subtraction two- step problems in contexts, deciding which operations and methods to use and why</li> <li>* Estimate and use inverse operations to check answers to a calculation</li> </ul>	Assessments	* Find the area of rectilinear shapes by counting squares	<ul> <li>Maths Week England will be celebrated during this block with a set focus</li> <li>* Recall multiplication and division facts for multiplication tables up to 12 × 12</li> <li>* Recognise and use factor pairs and commutativity in mental calculations</li> <li>* Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</li> </ul>	<ul> <li>Recognise and use factor pairs and commutativity in mental calculations</li> </ul>	
Smaller Steps (WRM)	Step 1       Represent numbers to 1,000         Step 2       Partition numbers to 1,000         Step 3       Number line to 1,000         Step 4       Thousands         Step 5       Represent numbers to 10,000         Step 6       Partition numbers to 10,000         Step 7       Flexible partitioning of numbers to 10,000         Step 8       Find 1, 10, 100, 1,000 more or less         Step 9       Number line to 10,000         Step 10       Estimate on a number line to 10,000         Step 11       Compare numbers to 10,000         Step 12       Order numbers to 10,000         Step 13       Roman numerals         Step 14       Round to the nearest 10         Step 15       Round to the nearest 1,000         Step 16       Round to the nearest 10,100 or 1,000	Step1       Add and subtract 1s, 10s, 100s and 1,000s         Step2       Add up to two 4-digit numbers - no exchange         Step3       Add two 4-digit numbers - one exchange         Step4       Add two 4-digit numbers - more than one exchange         Step5       Subtract two 4-digit numbers - no exchange         Step5       Subtract two 4-digit numbers - no exchange         Step5       Subtract two 4-digit numbers - one exchange         Step5       Subtract two 4-digit numbers - one exchange         Step5       Subtract two 4-digit numbers - more than one exchange         Step5       Subtract two 4-digit numbers - more than one exchange         Step5       Efficient subtraction         Step5       Estimate answers         Step10       Checking strategies	PiXL A	West       What is area?         Supp       Count squares         Supp       Compare areas	Step 1Multiples of 3Step 2Multiply and divide by 6Step 36 times-table and division factsStep 4Multiply and divide by 9Step 59 times-table and division factsStep 6The 3, 6 and 9 times-tablesStep 7Multiply and divide by 7Step 87 times-table and division factsStep 911 times-table and division factsStep 1012 times-table and division factsStep 11Multiply by 1 and 0Step 12Divide a number by 1 and itselfStep 13Multiply three numbers	Sopp       Foctor pairs         Step3       Use factor pairs         Step3       Multiply by 10         Step3       Multiply by 100         Step3       Divide by 10	

<ul> <li>Step 9-Number line to 10,000</li> <li>Step 10-Estimate on a number line to 10,000</li> </ul>	RTP's	<ul> <li>* 4NPV-1 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.</li> <li>• Step 4-Thousands</li> <li>* 4NPV-2 Recognise the place value of each digit in four-digit numbers and compose and decompose four-digit numbers using standard and non-standard partitioning.</li> <li>• Step 5-Represent numbers to 10,000</li> <li>• Step 6-Partition numbers to 10,000</li> <li>• Step 7-Flexible partitioning of numbers to 10,000</li> <li>• Step 7-Flexible partition of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each</li> <li>• Step 8-Find 1, 10, 100, 1,000 more or less</li> <li>• Step 10-Estimate on a number line to 10,000</li> <li>• Step 11-Compare numbers to 10,000</li> <li>• Step 14-Round to the nearest 10</li> <li>• Step 16-Round to the nearest 1,000</li> <li>• Step 17-Round to the nearest 1,000</li> <li>• Step 17-Round to the nearest 10,000</li> </ul>		<ul> <li>* 4NF-1 Recall multiplication up to 12 × 12 and recognise multiplication tables as mul corresponding number.</li> <li>•All 13 steps in this I this criterion</li> <li>* 4NF-2 Solve division probl dividends and one-digit divi remainders, and interpret n appropriately according to</li> <li>•All 13 steps in this I this criterion</li> <li>* 4MD-2 Manipulate multipli equations and understand a commutative property of m</li> <li>•All 13 steps in this I this criterion</li> </ul>
		parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. • Step 9-Number line to 10,000 • Step 10-Estimate on a number line to		

ion and division facts se products in ultiples of the

## block relate to

blems, with two-digit ivisors, that involve t remainders to the context. **s block relate to** 

blication and division l and apply the multiplication. **s block relate to**  **4NPV-1** 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 fourdigit multiples of 100.

- Step 3-Multiply by 10
- Step 4-Multiply by 100
- Step 5-Divide by 10
- <u>4NF-1</u> Recall multiplication and division facts up to 12 × 12 and recognise products in multiplication tables as multiples of the
- corresponding number.
- Step 1-Factor pairsStep 2-Use factor pairs
- **4NF-3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)
- Step 4-Multiply by 100
- \* 4MD-1 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.
- Step 3-Multiply by 10
- Step 4-Multiply by 100
- Step 5-Divide by 10



Spring Term	Weeks 1-2	Weeks 3-4	Week 5	Week 6	Weeks 7-8	Weeks 9-11	Week 12
Domain	Multiplication and Division B	Length and Perimeter	Fractions		Fractions continued	Decimals A	Statistics
NC Objective	<ul> <li>Recognise and use factor pairs and commutativity in mental calculations</li> <li>Recall multiplication and division facts for multiplication tables up to 12 × 12</li> <li>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</li> <li>Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout</li> <li>Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects</li> </ul>	<ul> <li>Convert between different units of measure [for example, kilometre to metre; hour to minute]</li> <li>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> </ul>	<ul> <li>Recognise and show, using diagrams, families of common equivalent fractions</li> <li>Add and subtract fractions with the same denominator</li> </ul>	PiXL Assessments	<ul> <li>Recognise and show, using diagrams, families of common equivalent fractions</li> <li>Add and subtract fractions with the same denominator</li> <li>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</li> <li>Solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>	<ul> <li>Recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>Compare numbers with the same number of decimal places up to 2 decimal places</li> <li>Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li> <li>Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10</li> <li>Recognise and show, using diagrams, families of common equivalent fractions</li> <li>Recognise and write decimal equivalents to <sup>1</sup>/<sub>2</sub>, <sup>1</sup>/<sub>4</sub>, <sup>3</sup>/<sub>4</sub></li> <li>Round decimals with one decimal place to the nearest whole number</li> <li>Solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>	<ul> <li>Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</li> <li>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul>
	Step 6 Divide by 100	Step 1 Measure in kilometres and metres	They 1 Understand the whole	<u>م</u>	Step 6 Understand improper fractions	Step 1 Tenths as fractions	Sinp 1         Interpret chorts           Sinp 2         Comparison, sum and difference
	Step 7 Related facts - multiplication and division	Step 2 Equivalent lengths (kilometres and metres)	Count beyond 1 Partition a mixed number		Step 7 Convert mixed numbers to improper fractions	Step 2 Tenths as decimals	Sup 3 Interpret line graphs
		step 3 Perimeter on a grid	Number lines with mixed numbers		Convert improper fractions to mixed numbers	Step 3 Tenths on a place value chart	Draw line graphs
	Step 8         Informal written methods for multiplication	Step 4 Perimeter of a rectangle	Compare and order mixed numbers		Step 9 Equivalent fractions on a number line		
	step 9 Multiply a 2-digit number by a 1-digit number	Step 5 Perimeter of rectilinear shapes			Step 10 Equivalent fraction families		
	Step 10 Multiply a 3-digit number by a 1-digit number		Steps 2-8 are		Step 11 Add two or more fractions	(step 5) Divide a 1-digit number by 10	
	Step 11         Divide a 2-digit number by a 1-digit number (1)	(Step 6) Find missing lengths in rectilinear shapes	not taken from		Step 12 Add fractions and mixed numbers	Step 6 Divide a 2-digit number by 10	
Smaller		(Step 7) Calculate perimeter of rectilinear shapes	the Year 4			Step 7 Hundredths as fractions	
	Step 12         Divide a 2-digit number by a 1-digit number (2)	Step 8 Perimeter of regular polygons	National Curriculum they			Step B         Hundredths as decimals	
Steps (WRM)	step 13 Divide a 3-digit number by a 1-digit number	Step 9 Perimeter of polygons	Curriculum, they		Step 14 Subtract from whole amounts	Step 9 Hundredths on a place value chart	
	Step 14 Correspondence problems		are included to		Step 15 Subtract from mixed numbers	Step 10 Divide a 1- or 2-digit number by 100	
		Steps 8&9 are not taken	take into				
	Step 15 Efficient multiplication	from the Year 4 National	account the RTP		Steps 2-8 are not taken		
		Curriculum, they are	criteria		from the Year 4 National		
		included to take into			Curriculum, they are		
		account the RTP criteria			included to take into		
					account the RTP criteria		

	<ul> <li><u>4NPV-1</u> Know that 10 hundreds are equivalent to 1 thousand, and that 1,000</li> </ul>	★ <u>4G-2</u> Identify regular polygons, including equilateral triangles and	★ 4F-1 Reason about the location of	★ <u>4F-2</u> Convert mixed numbers to improper fractions and vice
	is 10 times the size of 100; apply this to	squares, as those in which the	mixed numbers in	versa.
	identify and work out how many 100s	side-lengths are equal and the	the linear number	•Step 7-Convert mixed
	there are in other four-digit multiples of	angles are equal. Find the	system.	numbers to improper fractions
	100.	perimeter of regular and irregular	•Step 4-Number	•Step 8-Convert improper
	• Step 6-Divide by 100	polygons.	lines with mixed	fractions to mixed numbers
	<ul> <li>4NF-1 Recall multiplication and division</li> </ul>	• Step 8-Perimeter of regular	numbers	
	facts up to 12 × 12 and recognise	polygons	•Step 5-Compare	
	products in multiplication tables as	• Step 9-Perimeter of polygons	and order mixed	Not a Year 4 objective
	multiples of the corresponding number.		numbers	but helps to prepare for
	• Step 7-Related facts -multiplication	The perimeter costion is		Year 5 if introduced
	and division	The perimeter section is		now.
	• Step 8-Informal written methods for	not a Year 4 objective but		
	multiplication	helps to prepare for Year 5		★ 4F-3 Add and subtract improper
	• Step 9-Multiply a 2-digit number by a	if introduced now.		and mixed fractions with the
	1-digit number			same denominator, including
	• Step 10-Multiply a 3-digit number by			bridging whole numbers.
	a 1-digit number			•Step 12-Add fractions and
	* 4NF-2 Solve division problems, with			mixed numbers
	two-digit dividends and one-digit			•Step 14-Subtract from whole
	divisors, that involve remainders, and			amounts
	interpret remainders appropriately			<ul> <li>Step 15-Subtract from mixed</li> </ul>
	according to the context.			numbers
RTP's	•Step 11-Divide a 2-digit number by a			
	1-digit number (1)			
	•Step 12-Divide a 2-digit number by a			
	1-digit number (2)			
	•Step 13-Divide a 3-digit number by a			
	1-digit number			
	★ 4NF-3 Apply place-value knowledge to			
	known additive and multiplicative number			
	facts (scaling facts by 100)			
	<ul> <li>Step 6-Divide by 100</li> </ul>			
	★ 4MD-1 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.			
	• Step 6-Divide by 100			
	* 4MD-3 Understand and apply the			
	distributive property of multiplication.			
	• Step 8-Informal written methods for			
	multiplication			
	• Step 9-Multiply a 2-digit number by a			
	1-digit number			
	• Step 10-Multiply a 3-digit number by			
	a 1-digit number			

Apply place-value
 knowledge to known additive and
 multiplicative number facts
 (scaling facts by 100)
 Step 10-Divide a 1-or 2-digit
 number by 100

## Sear 4 Medium Term Plan

Summer Term	Weeks 1-2     Week 3     Week 4     Weeks 5-6		Week 7	Week 8		
Domain	Decimals B	Time	Money	Shape	Position and Direction	
NC Objective	<ul> <li>Recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>Compare numbers with the same number of decimal places up to 2 decimal places</li> <li>Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10</li> <li>Recognise and write decimal equivalents to <sup>1</sup>/<sub>2</sub>, <sup>1</sup>/<sub>4</sub>, <sup>3</sup>/<sub>4</sub></li> <li>Round decimals with one decimal place to the nearest whole number</li> <li>Solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>	<ul> <li>Read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</li> </ul>	<ul> <li>Convert         between             different units             of measure [for             example,             kilometre to             metre; hour to             minute]     </li> <li>Estimate,             compare and             calculate             different             measures,             including money             in pounds and             pence</li> </ul>	<ul> <li>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>Identify acute and obtuse angles and compare and order angles up to two right angles by size</li> <li>Identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>Complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul>	<ul> <li>Describe positions on a 2-D grid as coordinates in the first quadrant</li> <li>Describe movements between positions as translations of a given unit to the left/right and up/down</li> <li>Plot specified points and draw sides to complete a given polygon.</li> </ul>	nents
Smaller Steps (WRM)	Step 1       Make a whole with tenths         Step 2       Make a whole with hundredths         Step 3       Partition decimals         Step 4       Flexibly partition decimals         Step 5       Compare decimals         Step 6       Order decimals         Step 7       Round to the nearest whole number         Step 8       Holves and quarters as decimals	Tears months weeks and days     Mours, minutes and seconds     Mours, minutes and seconds     Convert Issues analogue and digital times     Convert Issue Analogue and digital times     Convert Issue the 24-hour clock     Convert Issue the 24-hour clock	ter energy using distantial     Concert Science provide surf protec     Competer analysis of anexy     Competer analysis of anexy     Concert Science and moreg     Concert Science and moreg     Concert Science and moreg     Science and moreg     Science and moreg	Step 1       Understand angles as turns         Step 2       Identify angles         Step 3       Compare and order angles         Step 4       Triangles         Step 5       Quadrilaterals         Step 6       Polygons         Step 1       Complete a symmetric figure	Describe products      Describe translation on a grid      Describe translation on a grid	PiXL Assessments
RTP's				<ul> <li>* 4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons</li> <li>• Step 4-Triangles</li> <li>• Step 5-Quadrilaterals</li> <li>• Step 6-Polygons</li> <li>* 4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</li> <li>• Step 7-Lines of symmetry</li> </ul>	<ul> <li>* 4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</li> <li>• Step 3-Draw 2-D shapes on a grid</li> <li>• Step 4-Translate on a grid</li> </ul>	

