

Mathematics

Long Term Plan

Year 5

Updated June 2023

To be read in conjunction with the Calculation Policy



Year 5 Long Term Plan

	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 <i>Including explicit teaching of mental methods</i>		PiXL Assessments	NUMBER Multiplication and Division A <i>Including explicit teaching of mental methods</i>		NUMBER Fractions A MWE Maths Week England		NUMBER Multiplication and Division A&B		
Spring	NUMBER Multiplication and Division B		NUMBER Fractions B		MEASUREMENT Perimeter and Area	PiXL Assessments	NUMBER Decimals and Percentages		Statistics	GEOMETRY Properties of shape			
Summer	GEOMETRY Position and Direction		NUMBER Decimals		NUMBER Negative Numbers	MEASUREMENT Converting units	MEASUREMENT Volume	PiXL Assessments	Consolidation of RTP's PiXL Analysis Focus Times Tables Focus Ye YOUNG enterprise My Money Maths				



Year 5 Medium Term Plan

Autumn Term	Weeks 1-3	Weeks 4-5	Week 6	Weeks 7-8	Weeks 9-12 Maths Week England	Week 13
Domain	Place Value	Addition and Subtraction		Multiplication and Division A	Fractions A	Multiplication and Division B
NC Objective	<ul style="list-style-type: none"> ★ Read roman numerals to 1000 (m) and recognise years written in roman numerals ★ Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit ★ Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 ★ Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 ★ Interpret negative numbers in context ★ Solve number problems and practical problems that involve all of the above 	<ul style="list-style-type: none"> ★ Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ★ Add and subtract numbers mentally with increasingly large numbers ★ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy ★ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why ★ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 	PiXL Assessments	<ul style="list-style-type: none"> ★ Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers ★ Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers ★ Establish whether a number up to 100 is prime and recall prime numbers up to 19 ★ Multiply and divide numbers mentally drawing upon known facts ★ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 ★ Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) ★ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates ★ Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 	<p>Maths Week England will be celebrated during this block with a set focus</p>	<ul style="list-style-type: none"> ★ 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 and divide numbers mentally drawing upon known facts ★ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 ★ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign ★ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
Smaller Steps (WRM)	<ul style="list-style-type: none"> Step 1 Roman numerals to 1,000 Step 2 Numbers to 10,000 Step 3 Numbers to 100,000 Step 4 Numbers to 1,000,000 Step 5 Read and write numbers to 1,000,000 Step 6 Powers of 10 Step 7 10/100/1,000/10,000/100,000 more or less Step 8 Partition numbers to 1,000,000 	<ul style="list-style-type: none"> Step 1 Mental strategies Step 2 Add whole numbers with more than four digits Step 3 Subtract whole numbers with more than four digits Step 4 Round to check answers Step 5 Inverse operations (addition and subtraction) Step 6 Multi-step addition and subtraction problems Step 7 Compare calculations Step 8 Find missing numbers 		<ul style="list-style-type: none"> Step 1 Multiples Step 2 Common multiples Step 3 Factors Step 4 Common factors Step 5 Prime numbers Step 6 Square numbers Step 7 Cube numbers Step 8 Multiply by 10, 100 and 1,000 Step 9 Divide by 10, 100 and 1,000 Step 10 Multiples of 10, 100 and 1,000 	<ul style="list-style-type: none"> Step 1 Find fractions equivalent to a unit fraction Step 2 Find fractions equivalent to a non-unit fraction Step 3 Recognise equivalent fractions Step 4 Convert improper fractions to mixed numbers Step 5 Convert mixed numbers to improper fractions Step 6 Compare fractions less than 1 Step 7 Order fractions less than 1 Step 8 Compare and order fractions greater than 1 	<ul style="list-style-type: none"> Step 1 Multiply up to a 4-digit number by a 1-digit number Step 2 Multiply a 2-digit number by a 2-digit number (area model) Step 3 Multiply a 2-digit number by a 2-digit number Step 4 Multiply a 3-digit number by a 2-digit number Step 5 Multiply a 4-digit number by a 2-digit number

	<p>Step 9 Number line to 1,000,000</p> <p>Step 10 Compare and order numbers to 100,000</p> <p>Step 11 Compare and order numbers to 1,000,000</p> <p>Step 12 Round to the nearest 10, 100 or 1,000</p> <p>Step 13 Round within 100,000</p> <p>Step 14 Round within 1,000,000</p>			<p>Step 9 Add and subtract fractions with the same denominator</p> <p>Step 10 Add fractions within 1</p> <p>Step 11 Add fractions with total greater than 1</p> <p>Step 12 Add to a mixed number</p> <p>Step 13 Add two mixed numbers</p> <p>Step 14 Subtract fractions</p> <p>Step 15 Subtract from a mixed number</p> <p>Step 16 Subtract from a mixed number – breaking the whole</p> <p>Step 17 Subtract two mixed numbers</p>	
RTP's			<p>★ 5NF-1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice</p> <ul style="list-style-type: none"> •Step 1-Multiples •Step 2-Common multiples •Step 3-Factors •Step 4-Common factors •Step 6-Square numbers <p>★ 5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth)</p> <ul style="list-style-type: none"> •Step 10-Divide by 10, 100 and 1,000 <p>★ 5MD-1 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</p> <ul style="list-style-type: none"> •Step 8-Multiply by 10, 100 and 1,000 •Step 9-Divide by 10, 100 and 1,000 •Step 10-Multiples of 10, 100 and 1,000 <p>★ 5MD-2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors</p> <ul style="list-style-type: none"> •Step 1-Multiples •Step 2-Common multiples •Step 3-Factors •Step 4-Common factors •Step 6-Square numbers 	<p>★ 5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system</p> <ul style="list-style-type: none"> •Step 1-Find fractions equivalent to a unit fraction •Step 2-Find fractions equivalent to a non-unit fraction •Step 3-Recognise equivalent fractions 	<p>★ 5MD-1 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</p> <ul style="list-style-type: none"> •Step 8-Multiply by 10, 100 and 1,000 •Step 9-Divide by 10, 100 and 1,000 •Step 10-Multiples of 10, 100 and 1,000






Year 5 Medium Term Plan

Spring Term	Weeks 1-2	Weeks 3-4	Week 5	Week 6	Weeks 7-9	Week 10	Weeks 11-12
Domain	Multiplication and Division	Fractions B	Perimeter and Area		Decimals and Percentages	Statistics	Properties of Shape
NC Objective	<ul style="list-style-type: none"> ★ 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 and divide numbers mentally drawing upon known facts ★ 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 ★ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 ★ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign ★ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates 	<ul style="list-style-type: none"> ★ Add and subtract fractions with the same denominator and denominators that are multiples of the same number ★ Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 	<ul style="list-style-type: none"> ★ Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres ★ Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes 	PIXL Assessments	<ul style="list-style-type: none"> ★ Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$] ★ 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 ★ 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 fraction ★ Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 	<ul style="list-style-type: none"> ★ Solve comparison, sum and difference problems using information presented in a line graph ★ Complete, read and interpret information in tables, including timetables 	<ul style="list-style-type: none"> ★ Identify 3-d shapes, including cubes and other cuboids, from 2-d representations ★ Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles ★ Draw given angles, and measure them in degrees (°) ★ Identify: <ul style="list-style-type: none"> ★ Angles at a point and one whole turn (total 360°) ★ Angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) ★ Other multiples of 90° ★ Use the properties of rectangles to deduce related facts and find missing lengths and angles ★ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
Smaller Steps (WRM)	<ul style="list-style-type: none"> Step 6: Solve problems with multiplication Step 7: Short division Step 8: Divide a 4-digit number by a 1-digit number Step 9: Divide with remainders Step 10: Efficient division Step 11: Solve problems with multiplication and division 	<ul style="list-style-type: none"> Step 1: Multiply a unit fraction by an integer Step 2: Multiply a non-unit fraction by an integer Step 3: Multiply a mixed number by an integer Step 4: Calculate a fraction of a quantity Step 5: Fraction of an amount Step 6: Find the whole Step 7: Use fractions as operators 	<ul style="list-style-type: none"> Step 1: Perimeter of rectangles Step 2: Perimeter of rectilinear shapes Step 3: Perimeter of polygons Step 4: Area of rectangles Step 5: Area of compound shapes Step 6: Estimate area 		<ul style="list-style-type: none"> Step 1: Decimals up to 2 decimal places Step 2: Equivalent fractions and decimals (tenths) Step 3: Equivalent fractions and decimals (hundredths) Step 4: Equivalent fractions and decimals Step 5: Thousandths as fractions Step 6: Thousandths as decimals Step 7: Thousandths on a place value chart Step 8: Order and compare decimals (same number of decimal places) 	<ul style="list-style-type: none"> Step 1: Draw line graphs Step 2: Read and interpret line graphs Step 3: Read and interpret tables Step 4: Two-way tables Step 5: Read and interpret timetables 	<ul style="list-style-type: none"> Step 1: Understand and use degrees Step 2: Classify angles Step 3: Estimate angles Step 4: Measure angles up to 180° Step 5: Draw lines and angles accurately Step 6: Calculate angles around a point Step 7: Calculate angles on a straight line Step 8: Lengths and angles in shapes Step 9: Regular and irregular polygons Step 10: 3-D shapes

				<ul style="list-style-type: none"> Step 9 Order and compare any decimals with up to 3 decimal places Step 10 Round to the nearest whole number Step 11 Round to 1 decimal place Step 12 Understand percentages Step 13 Percentages as fractions Step 14 Percentages as decimals Step 15 Equivalent fractions, decimals and percentages 	
RTP's	<ul style="list-style-type: none"> ★ 5NF-1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice <ul style="list-style-type: none"> • All 11 steps in this block relate to this criterion ★ 5MD-3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method <ul style="list-style-type: none"> • Step 1-Multiply up to a 4-digit number by a 1-digit number • Step 2-Multiply a 2-digit number by a 2-digit number (area model) • Step 3-Multiply a 2-digit number by a 2-digit number • Step 4-Multiply a 3-digit number by a 2-digit number • Step 5-Multiply a 4-digit number by a 2-digit number ★ 5MD-4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context <ul style="list-style-type: none"> • Step 7-Short division • Step 8-Divide a 4-digit number by a 1-digit number • Step 9-Divide with remainders 	<ul style="list-style-type: none"> ★ 5F-1 Find non-unit fractions of quantities <ul style="list-style-type: none"> • Step 4-Calculate a fraction of a quantity ★ 5 -Fraction of an amount ★ 5NF-1 Secure multiplication fluency in table facts, and corresponding division facts, through continued practice <ul style="list-style-type: none"> • All 7 steps in this block relate to this criterion 	<ul style="list-style-type: none"> ★ 5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units <ul style="list-style-type: none"> • Step 4-Area of rectangles • Step 5-Area of compound shapes 	<ul style="list-style-type: none"> ★ 5NPV-1 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 <ul style="list-style-type: none"> • Step 1-Decimals up to 2 decimal places ★ 5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning <ul style="list-style-type: none"> • Step 1-Decimals up to 2 decimal places ★ 5NPV-3 Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each <ul style="list-style-type: none"> • Step 8-Order and compare decimals (same number of decimal places) • Step 9-Order and compare any decimals with up to 3 decimal places • Step 10-Round to the nearest whole number • Step 11-Round to 1 decimal place ★ 5NPV-4 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 <ul style="list-style-type: none"> • Step 2-Equivalent fractions and decimals (tenths) • Step 3-Equivalent fractions and decimals (hundredths) • Step 15-Equivalent fractions, decimals and percentages ★ 5F-3 Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions <ul style="list-style-type: none"> • Step 2-Equivalent fractions and decimals (tenths) • Step 3-Equivalent fractions and decimals (hundredths) • Step 4-Equivalent fractions and decimals 	<ul style="list-style-type: none"> ★ 5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size <ul style="list-style-type: none"> • Step 2-Classify angles • Step 3-Estimate angles • Step 4-Measure angles up to 180° • Step 5-Draw lines and angles accurately



Year 5 Medium Term Plan

Summer Term	Weeks 1-2	Weeks 3-4	Week 5	Week 6	Week 7	Week 8	Weeks 9-12 My Money Maths
Domain	Position and Direction	Decimals	Negative Numbers	Converting Units	Volume		Consolidation of RTP's
NC Objective	<ul style="list-style-type: none"> ★ 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 	<ul style="list-style-type: none"> ★ Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] ★ 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 	<ul style="list-style-type: none"> ★ Count forwards and backwards with positive and negative whole numbers, including through zero 	<ul style="list-style-type: none"> ★ Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) ★ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints ★ Solve problems involving converting between units of time 	<ul style="list-style-type: none"> ★ Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] ★ Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling 		<div style="text-align: center;">  <p>Young Enterprise 'My Money Maths' will take place during this block with a set focus</p>   </div>
Smaller Steps (WRM)	<ul style="list-style-type: none"> Step 1 Read and plot coordinates Step 2 Problem solving with coordinates Step 3 Translation Step 4 Translation with coordinates Step 5 Lines of symmetry Step 6 Reflection in horizontal and vertical lines 	<ul style="list-style-type: none"> Step 1 Use known facts to add and subtract decimals within 1 Step 2 Complements to 1 Step 3 Add and subtract decimals across 1 Step 4 Add decimals with the same number of decimal places Step 5 Subtract decimals with the same number of decimal places Step 6 Add decimals with different numbers of decimal places Step 7 Subtract decimals with different numbers of decimal places Step 8 Efficient strategies for adding and subtracting decimals Step 9 Decimal sequences Step 10 Multiply by 10, 100 and 1,000 Step 11 Divide by 10, 100 and 1,000 Step 12 Multiply and divide decimals - missing values 	<ul style="list-style-type: none"> Step 1 Understand negative numbers Step 2 Count through zero in 1s Step 3 Count through zero in multiples Step 4 Compare and order negative numbers Step 5 Find the difference 	<ul style="list-style-type: none"> Step 1 Kilograms and kilometres Step 2 Millimetres and millilitres Step 3 Convert units of length Step 4 Convert between metric and imperial units Step 5 Convert units of time Step 6 Calculate with timetables 	<ul style="list-style-type: none"> Step 1 Cubic centimetres Step 2 Compare volume Step 3 Estimate volume Step 4 Estimate capacity 		
RTP's		<ul style="list-style-type: none"> ★ 5MD-1 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 <ul style="list-style-type: none"> • Step 10-Multiply by 10,100 and 1,000 • Step 11-Divide by 10,100 and 1,000 • Step 12-Multiply and divide decimals - missing values 		<ul style="list-style-type: none"> ★ 5NPV-5 Convert between units of measure, including using common decimals and fractions <ul style="list-style-type: none"> • Step 3-Convert units of length • Step 4-Convert between metric and imperial units • Step 5-Convert units of time 			

PiXL Assessments

This time is also used to consolidate:

- ★ RTP's that need revisiting
- ★ Areas of concern through the PiXL analysis
- ★ Times Tables