# Year 6 Curriculum Coverage

Below is the coverage for the Year 6 Maths curriculum. Ongoing objectives across the year are highlighted in red.

### Number and place value

- read, write, order and compare numbers up to 10,000,000 and determine the value of each digit
- round any whole number to a required degree of accuracy
- use negative numbers in context, and calculate intervals across 0
- solve number and practical problems that involve all of the above

### Number – addition, subtraction multiplication and division

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate 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
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the 4 operations
- 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
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

### Number - fractions

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- compare and order fractions, including fractions >1
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form [for example,  $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ]
- divide proper fractions by whole numbers [for example,  $\mathbf{\dot{3}} \div 2 = \mathbf{\dot{6}}$ ]
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple  $\frac{3}{8}$
- 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
- 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
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

### **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 the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison
- solve problems involving similar shapes where the scale factor is known or can be found
- solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

#### Algebra

- 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

#### Measurement

- solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3
  decimal places where appropriate
- 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
- convert between miles and kilometres
- recognise that shapes with the same areas can have different perimeters and vice versa
- recognise when it is possible to use formulae for area and volume of shapes
- calculate the area of parallelograms and triangles
- calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units [for example, mm<sup>3</sup> and km<sup>3</sup>]

#### Geometry - properties of shapes

- draw 2-D shapes using given dimensions and angles
- recognise, describe and build simple 3-D shapes, including making nets
- compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
- illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing
  angles

#### Geometry – position and direction

- 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

#### Statistics

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average

## Year 6 Rapid Recall

Listed below are the number facts that we expect year 6 children to learn by heart. We track children's assessments in these facts on a half termly basis. This data informs our number focus for the next half

Number facts, number bonds	Counting	Addition and subtraction facts	Times tables and division facts	Doubles and halves
Know the fraction, decimal and percentage conversion for				Know halves of any number up to 100
½ ¼ ¾ 1/3, 1/5, 1/8 1/10, 1/100				Know doubles of any number up to 100

term for whole class starters and afternoon intervention groups.

## Teaching sequence - Starter tasks

We have carefully planned our curriculum so that some key concepts are revisited throughout the year.

	Week1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn 1	Naming 2d and 3d shapes and properties Perimeter of rectilinear shapes Arear of rectilinear shapes – count squares	Read, write, order and compare numbers with up to 3 decimal places Round decimals with 2dp to 1dp and whole numbers Factors, multiples, primes, squares and cube numbers	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital Convert between units of time	Convert mixed numbers to improper fractions and vice versa Compare and order fractions whose denominators are all multiples of the same number	Interpret pictograms, tally chart, bar chart, time graphs, timetables and tables.	Arear of rectilinear shapes – count squares Coordinates Find missing angles	Multiply and divide whole numbers and decimals by 10 100 and 1000 Multiply up to 4 digits numbers with a 1 or 2 digit number Divide numbers up to 4 digit with a 1 digit number
Autumn 2	Read, write, order and compare numbers with up to 3 decimal places Round decimals with 2dp to 1dp and whole numbers	Naming 2d and 3d shapes and properties Perimeter of rectilinear shapes Arear of rectilinear shapes – count squares	Multiply and divide whole numbers and decimals by 10 100 and 1000 Multiply up to 4 digits numbers with a 1 or 2 digit number Divide numbers up	Interpret pictograms, tally chart, bar chart, time graphs, timetables and tables.	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital Convert between units of time	Convert mixed numbers to improper fractions and vice versa Compare and order fractions whose denominators are all multiples of	Arear of rectilinear shapes – count squares Coordinates - 4 quadrants Find missing angles

	E e e t e e					the contract of the second	
	Factors, multiples,		to 4 digit with a 1 digit			the same number	
	primes,		number			поппрег	
	squares and		nomber				
	cube numbers						
Spring 1	Multiply and	Interpret	Multiply one	Naming 2d	Convert mixed	Time to the	Interpret
	divide whole	pictograms,	digit numbers	and 3d	numbers to	nearest 1	pictograms,
	numbers and	tally chart,	with up to 2	shapes and	improper	minutes. 12	tally chart,
	decimals by 10	bar chart,	decimals	properties	fractions and	and 24 hour	bar chart,
	100 and 1000	time graphs,	places with		vice versa	clocks,	time graphs,
		line graphs,	whole	Area,		analogue	line graphs,
	Multiply up to 4	timetables	numbers	perimeter and	Compare and	and digital	timetables
	digits numbers with a 1 or 2	and tables.		volume	order fractions whose	Convert	and tables.
	digit number		Read, write,		denominators	between units	
	aightiothool		order and		are all multiples	of time	
	Divide		compare		of the same		
	numbers up to		numbers with		number		
	4 digit with a 1		up to 3				
	digit number		decimal		Feretera		
			places		Factors, multiples,		
					primes, squares		
			Round		and cube		
			decimals with		numbers		
			2dp to 1dp				
			and whole numbers				
Spring 2	Area,	multiply	Time to the	Multiply and	Multiply one		
spring 2	perimeter and	simple pairs of	nearest 1	divide whole	digit numbers		
	volume	proper	minutes. 12	numbers and	with up to 2		
		fractions	and 24 hour	decimals by	decimals		
	Coordinates -		clocks,	10 100 and	places with		
	4 quadrants		analogue	1000	whole numbers		
	Find missing		and digital	Multiply up to			
	Find missing angles		Convert	Multiply up to 4 digits	Read, write,		
	Grigies		between units	numbers with	order and		
			of time	a 1 or 2 digit	compare		
				number	numbers with		
					up to 3		
				Divide	decimal places		
				numbers up			
				to 4 digit with	Round		
				a 1 digit number	decimals with		
				nomber	2dp to 1dp		
					and whole numbers		
					nombers		
					Factors,		
					multiples,		
					primes, squares		
					and cube		
-					numbers		
Summer 1	Time to the	Multiply and	Interpret	Naming 2d	Multiply one	Convert	
	nearest 1 minutes, 12	divide whole numbers and	pictograms, tally chart,	and 3d shapes and	digit numbers with up to 2	mixed numbers to	
	and 24 hour	decimals by	bar chart,	properties	decimals	improper	
	clocks,	10 100 and	time graphs,	properties	places with	fractions and	
	analogue and	1000	line graphs,	Area,	whole numbers	vice versa	
	digital		timetables	perimeter and			
		Multiply up to	and tables.	volume		Compare and	
	Convert	4 digits			Read, write,	order	
	between units	numbers with			order and	fractions	
	of time	a 1 or 2 digit number			compare numbers with	whose denominators	
		nomber			numbers with to 3	are all	
		Divide			decimal places	multiples of	
		numbers up			1.10.000	the same	
		to 4 digit with				number	

		a 1 digit number			Round decimals with 2dp to 1dp and whole numbers	Factors, multiples, primes, squares and cube numbers	
Summer 2	Multiply and divide whole numbers and decimals by 10 100 and 1000 Multiply up to 4 digits numbers with a 1 or 2 digit number Divide numbers up to 4 digit with a 1 digit number	Multiply one digit numbers with up to 2 decimals places with whole numbers Read, write, order and compare numbers with up to 3 decimal places Round decimals with 2dp to 1dp and whole numbers	Area, perimeter and volume Coordinates - 4 quadrants Find missing angles	Convert mixed numbers to improper fractions and vice versa Compare and order fractions whose denominators are all multiples of the same number	Interpret pictograms, tally chart, bar chart, time graphs, line graphs, timetables and tables.	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital Convert between units of time	Multiply and divide whole numbers and decimals by 10 100 and 1000 Multiply up to 4 digits numbers with a 1 or 2 digit number Divide numbers up to 4 digit with a 1 digit number

# Teaching sequence – Daily counting

Counting will be an essential element to each daily maths lesson.

## Teaching sequence – Main Maths Lesson Coverage

We have carefully planned our curriculum so that some key concepts are revisited throughout the year.

Autumn 1	Place value Calculatio		alculation	Fractions		Shape			Measure
Autumn 2	Calculation		Fractions			Measure			Ratio &
				direction					proportion
Spring 1	Calculation		Fractio	Fractions Sta		atistics			Shape
Spring 2	Position & direction		Measu	Neasure Ratio & prop		ortion		Algebra	
Summer 1	Fractior		Statistics			Measure			
Summer 2	Position & dir	n	Calculation		Algebra				

Autumn 1	Place value						
	•	read, write, order and compare numbers up to 10,000,000 and determine the value of each digit					
	•	round any whole number to a required degree of accuracy					
	•	use negative numbers in context, and calculate intervals across 0					
	N	umber – addition, subtraction multiplication and division					
	•	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication					
	•	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why					
	Fre	actions					

	• use	common factors to simplify fractions; use common multiples to express fractions in the same
		nomination
	• cor	npare and order fractions, including fractions >1
	equ	d and subtract fractions with different denominators and mixed numbers, using the concept of vivalent fractions
	• mul	Itiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ]
	• divi	de proper fractions by whole numbers [for example, $\overline{3} \div 2 = \overline{6}$ ]
	Shape	
		npare and classify geometric shapes based on their properties and sizes and find unknown angles in / triangles, quadrilaterals, and regular polygons
		ognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find sing angles
	Measur	e
	• rec	ognise that shapes with the same areas can have different perimeters and vice versa
	• rec	ognise when it is possible to use formulae for area and volume of shapes
	• cal	culate the area of parallelograms and triangles
		culate, estimate and compare volume of cubes and cuboids using standard units, including cubic ntimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]
Autumn 2	Numbe	r – addition, subtraction multiplication and division
	divi	de numbers up to 4 digits by a two-digit whole number using the formal written method of long sion, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate the context
		de numbers up to 4 digits by a two-digit number using the formal written method of short division ere appropriate, interpreting remainders according to the context
	Fraction	ns
		pciate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a $\frac{3}{8}$
		ntify 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
		Itiply one-digit numbers with up to 2 decimal places by whole numbers
		written division methods in cases where the answer has up to 2 decimal places
		re problems which require answers to be rounded to specified degrees of accuracy
		all and use equivalences between simple fractions, decimals and percentages, including in different ntexts
	Position	and direction
	•	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
	Measure	
	•	solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate
	•	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
	•	convert between miles and kilometres
	Ratio a	nd 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 the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison

	solve problems involving similar shapes where the scale factor is known or can be found							
	<ul> <li>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</li> </ul>							
Spring 1	Number – addition, subtraction multiplication and division							
	• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication							
	• use their knowledge of the order of operations to carry out calculations involving the 4 operations							
	Number - fractions							
	<ul> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> </ul>							
	• compare and order fractions, including fractions >1							
	• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions							
	• multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ] 1 1							
	• divide proper fractions by whole numbers [for example, $\overline{3} \div 2 = \overline{6}$ ] Statistics							
	interpret and construct pie charts and line graphs and use these to solve problems							
	calculate and interpret the mean as an average							
	Shape							
	draw 2-D shapes using given dimensions and angles							
	recognise, describe and build simple 3-D shapes, including making nets							
	• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius							
	<ul> <li>compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> </ul>							
	• recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles							
Spring 2	Position and direction							
1 3	<ul> <li>describe positions on the full coordinate grid (all 4 quadrants)</li> </ul>							
	<ul> <li>draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li> </ul>							
	Measure							
	• recognise that shapes with the same areas can have different perimeters and vice versa							
	recognise when it is possible to use formulae for area and volume of shapes							
	calculate the area of parallelograms and triangles							
	• calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm <sup>3</sup> ) and cubic metres (m <sup>3</sup> ), and extending to other units [for example, mm <sup>3</sup> and km <sup>3</sup> ]							
	Ratio and proportion							
	<ul> <li>solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts</li> </ul>							
	<ul> <li>solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison</li> </ul>							
	• solve problems involving similar shapes where the scale factor is known or can be found							
	solve problems involving unequal sharing and grouping using knowledge of fractions and multiples							
	Algebra							
	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						
	enumerate possibilities of combinations of 2 variables     Number – addition, subtraction multiplication and division						
	<ul> <li>divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> </ul>						
	• 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						
	• use their knowledge of the order of operations to carry out calculations involving the 4 operations						
Summer 1	Fractions						
	• associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a $\underline{3}$						
	simple fraction [for example, 8]						
	• 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						
	• 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						
	• recall and use equivalences between simple fractions, decimals and percentages, including in different contexts						
	Statistics						
	<ul> <li>interpret and construct pie charts and line graphs and use these to solve problems</li> </ul>						
	calculate and interpret the mean as an average						
	Measure						
	<ul> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate</li> </ul>						
	• 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						
	convert between miles and kilometres						
Summer 2	Position and direction						
	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						
	Algebra						
	use simple formulae						
	generate and describe linear number sequences						
	express missing number problems algebraically						
	<ul> <li>find pairs of numbers that satisfy an equation with 2 unknowns</li> </ul>						
	enumerate possibilities of combinations of 2 variables						
	Number – addition, subtraction multiplication and division						
	<ul> <li>multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> </ul>						
	<ul> <li>divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> </ul>						
	<ul> <li>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</li> </ul>						
1	• use their knowledge of the order of operations to carry out calculations involving the 4 operations						