Year 5 Curriculum Coverage

Below is the coverage for the Year 5 Maths curriculum. Ongoing objectives across the year are highlighted in red.

Number and place value

- 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
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0
- round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000
- solve number problems and practical problems that involve all of the above
- read Roman numerals to 1,000 (M) and recognise years written in Roman numerals

Number - addition and subtraction

- 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

Number - multiplication and division

- identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 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
- 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 1,000
- recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})
- solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
- 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

Number - 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
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]
- 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
- 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 2 decimal places to the nearest whole number and to 1 decimal place
- read, write, order and compare numbers with up to 3 decimal places
- solve problems involving number up to 3 decimal places
- 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
- 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

Measurement

- 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
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- 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
- estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
- solve problems involving converting between units of time
- use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling

Geometry - properties of shapes

- 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:
  - angles at a point and 1 whole turn (total 360°)
  - angles at a point on a straight line and half 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

Geometry – position and direction

- 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

Statistics

- solve comparison, sum and difference problems using information presented in a line graph
- complete, read and interpret information in tables, including timetables

<u>Year 5 Rapid Recall</u>

Listed below are the number facts that we expect year 5 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 term for whole class starters and afternoon intervention groups.

Number facts, number bonds	Counting	Addition and subtraction facts	Times tables and division facts	Doubles and halves
Know decimal compliments to 10 to 1decimal place (3.4 and 6.6) Know decimal compliments to 1 to 2 decimal places (0.76 and 0.24) Recall all the prime numbers up to 19 Recall all square numbers up to 12 squared	Count forwards in steps of 10,000 to 100,000 Count backwards in steps of 10,000 from 100,000 Count forwards in steps of 100,000 to 1,000,000 Count backwards in steps of 100,000 from 1,000,000			Know half of 9, 7, 5, 3 and 1 Know double 0.5, 1.5, 2.5, 3.5, 4.5 Know half of 19, 17, 15, 13 and 11 Know double 5.5, 6.5, 7.5, 8.5, 9.5

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	Week 8
A1	Perimeter of rectilinear shapes Arear of rectilinear shapes – count squares	Number bonds 20 and bonds to100 in multiples of 10 and multiples of 5 Bonds to 1000 in multiples of 100 and 50	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital	Find and write fractions of a set of objects and amounts Compare and order numbers beyond 1000 < > Round any number to the nearest 10, 100 or 1000	Doubles and halves Ten more, ten less, one hundred more and one hundred less, one thousand more, one thousand less	Interpret pictograms, tally chart, bar chart.	Find and write fractions of a set of objects and amounts Compare and order numbers beyond 1000 < >	Round any number to the nearest 10, 100 or 1000, 10,000 or 100.000
A2	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital Convert between units of time	Factors, square, cube and prime numbers 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	Naming 2d and 3d shapes and properties Coordinates	Interpret time graphs, timetables and tables.	Find and write fractions of a set of objects and amounts Compare and order numbers beyond 1000 < > Round any number to the nearest 10, 100 or 1000, 10,000 or 100.000	Add and subtract whole numbers with more than 4 digits Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals Factors, square, cube and prime numbers	Round any number to the nearest 10, 100 or 1000, 10,000 or 100.000 Number bonds 20 and bonds to100 in multiples of 10 and multiples of 5 Bonds to 1000 in multiples of 100 and 50	
Sp1	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	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital Convert between units of time	Find and write fractions of a set of objects and amounts Read, write, order and compare numbers with up to 3 decimal places Round decimals with 2dp to 1dp and whole numbers	Add and subtract whole numbers with more than 4 digits Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	Perimeter of rectilinear shapes Arear of rectilinear shapes – count squares	Interpret pictograms, tally chart, bar chart..		
Sp2	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital	Convert mixed numbers to improper fractions and vice versa	Naming 2d and 3d shapes and properties Coordinates	Multiply and divide whole numbers and decimals by 10 100 and 1000	Interpret time graphs, timetables and tables.	Factors, square, cube and prime numbers		

	Convert between units of time	Read, write, order and compare numbers with up to 3 decimal places Round decimals with 2dp to 1dp and whole numbers		Multiply up to 4 digits numbers with a 1 or 2 digit number Divide numbers up to 4 digit with a 1 digit number Factors, square, cube and prime numbers		Round any number to the nearest 10, 100 or 1000, 10,000 or 100.000 Number bonds 20 and bonds to100 in multiples of 10 and multiples of 5 Bonds to 1000 in multiples of 100 and 50		
Su1	Add and subtract whole numbers with more than 4 digits Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals Factors, square, cube and prime numbers	Time to the nearest 1 minutes. 12 and 24 hour clocks, analogue and digital Convert between units of time	Interpret pictograms, tally chart, bar chart..	Perimeter of rectilinear shapes Arear of rectilinear shapes – count squares 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			
Su2	Naming 2d and 3d shapes and properties Coordinates	Read, write, order and compare numbers with up to 3 decimal places Round decimals with 2dp to 1dp and whole numbers Round any number to the nearest 10, 100 or 1000, 10,000 or 100.000	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 Factors, square, cube and prime numbers	Interpret time graphs, timetables and tables.	Perimeter of rectilinear shapes Arear of rectilinear shapes – count squares 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	

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	Addition & subtraction	Multiplication & division	Measure	Shape	Position & direction
Autumn 2	Multiplication & division	Fractions	Measure	Statistics	Shape	
Spring 1	Place value	Addition & subtraction	Fractions	Position & direction		
Spring 2	Multiplication & division	Fractions	Measure	Shape	Statistics	
Summer 1	Place value	Addition & subtraction	Fractions	Position & direction		
Summer 2	Multiplication & division	Fractions	Measure	Shape	Statistics	

Autumn 1

Number and place value

- read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit

Y4 - read, write, order and compare numbers to at least 10,000 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

Y4 - count forwards or backwards in 1, 10, 100 and 1000 to 10,000

- interpret negative numbers in context (e.g. money/temperature)

- count forwards and backwards with positive and negative whole numbers, including through 0

Y4 - count backwards through 0 to include negative numbers

- round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000

Y4 - round any number to 10,000 the nearest 10, 100 or 1,000

- read Roman numerals to 1,000 (M) and recognise years written in Roman numerals

Y4 – read roman numerals to 100

Addition and subtraction

- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

Y4 - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction

- add and subtract numbers mentally with increasingly large numbers

Near doubles

- Know double 0.5, 1.5, 2.5, 3.5, 4.5
- Know double 5.5, 6.5, 7.5, 8.5, 9.5

Number bonds

- Know decimal compliments to 10 to 1decimal place (3.4 and 6.6)
- Know decimal compliments to 1 to 2 decimal places (0.76 and 0.24)

Bridging

Making the next 10, 100, 1000, 10,000 etc

- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Y5 - round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000

	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Y4 - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **Multiplication and division** • identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers Y4 - recognise and use factor pairs • 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 • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) **Measurement** • measure and calculate the perimeter of composite (can break down into 2 or more shapes) rectilinear shapes in centimetres and metres Y4 - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • 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 Y4 - find the area of rectilinear shapes by counting squares • estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] **Geometry - properties of shapes** • identify 3-D shapes, including cubes and other cuboids, from 2-D representations previously taught 2d shapes: circles, squares, rectangles, triangles, ovals, pentagons, hexagons, octagons, semi-circle, trapezium, parallelograms, kite, rhombus, irregular triangles, pentagons, hexagons, octagons previously taught 3d shapes: cone, cylinder, square based pyramid, sphere, cuboid, cube, triangular prism • know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Y4 - identify acute and obtuse angles and compare and order angles up to 2 right angles by size • draw given angles, and measure them in degrees (°) **Geometry – position and direction** • 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 Y4 - complete a simple symmetric figure with respect to a specific line of symmetry Y4 - describe positions on a 2-D grid as coordinates in the first quadrant Y4 - describe movements between positions as translations of a given unit to the left/right and up/down
Autumn 2	**Multiplication and division** • 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 1,000 **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

	• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] • 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 **Measure** • 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 • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling **Statistics** • solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables **Geometry - properties of shapes** • identify: • angles at a point and 1 whole turn (total 360°) • angles at a point on a straight line and half 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
Spring 1	**Number and place value** • read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 **Addition and subtraction** • 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 **Near doubles** • Know double 0.5, 1.5, 2.5, 3.5, 4.5 • Know double 5.5, 6.5, 7.5, 8.5, 9.5 **Number bonds** • Know decimal compliments to 10 to 1decimal place (3.4 and 6.6) • Know decimal compliments to 1 to 2 decimal places (0.76 and 0.24) **Bridging** Making the next 10, 100, 1000, 10,000 etc • 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 **Fractions** • 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 2 decimal places to the nearest whole number and to 1 decimal place • read, write, order and compare numbers with up to 3 decimal places • solve problems involving number up to 3 decimal places **Geometry – position and direction** • 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
Spring 2	**Multiplication and division**

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• 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 1,000
Fractions
• 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
• 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
Measure
• 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
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• use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling
Geometry - properties of shapes
• 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 (°)
Statistics
• solve comparison, sum and difference problems using information presented in a line graph
• complete, read and interpret information in tables, including timetables
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<td>Summer 1</td>
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Number and place value
• read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
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Bridging
Making the next 10, 100, 1000, 10,000 etc
• use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
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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
• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]
• add and subtract fractions with the same denominator, and denominators that are multiples of the same number
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	• multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams **Geometry – position and direction** • 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
Summer 2	**Multiplication and division** • 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 1,000 **Fractions** • 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 2 decimal places to the nearest whole number and to 1 decimal place • read, write, order and compare numbers with up to 3 decimal places • solve problems involving number up to 3 decimal places • 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 • 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 **Measurement** • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • 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 • estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] **Geometry - properties of shapes** • identify: • angles at a point and 1 whole turn (total 360°) • angles at a point on a straight line and half 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 **Statistics** • solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables