



# MATHS CURRICULUM Y5

Y5

## AUTUMN

- **NUMBER: Place Value**
- Read and write numbers to at least 1 000 000 and determine the value of each digit
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals
- Order and compare numbers to at least 1 000 000
- Count forwards or backwards in steps of powers of 10 for any given number to 1 000 000
- Interpret negative numbers in context
- Count forwards and backwards with positive and negative whole numbers, including through zero
- Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- Solve number problems and practical problems that involve all the above
- **NUMBER: Addition and Subtraction**
- Add and subtract numbers mentally with increasingly large numbers
- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- 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 familiar 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
- **NUMBER: Multiplication and Division A**
- Identify multiples and factors, including all factor pairs of a number, and common factors of 2 numbers I can 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 formal written method of short division and interpret remainders appropriately for the context

## SPRING

- **NUMBER: Multiplication and Division B**
- Multiply and divide numbers mentally drawing upon known facts
- 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
- Divide numbers up to 4 digits by a one-digit number using 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, understanding of the meaning of the equals sign
- Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
- Solve problems involving scaling by simple fractions and problems involving simple rates
- **NUMBER: Fractions B**
- 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
- **NUMBER: Decimals and Percentages**
- Read, write, order and compare numbers with up to three decimal places
- Recognise and use thousandths and relate them to tenths and hundredths and decimal equivalents
- Round decimals with two decimal places to the nearest whole number and to one decimal place
- Solve problems involving addition and subtraction involving numbers up to three decimal places Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred"
- Write percentages as a fraction with denominator hundred, and as a decimal
- Read and write decimal numbers as fractions
- Know percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25
- Solve problems which require knowing key percentage and decimal equivalents

## SUMMER

- **GEOMETRY: Property of Shape**
- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- 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
- Know that angles are measured in degrees: estimate and compare obtuse and reflex angles
- Draw given angles, and measure them in degrees
- Identify angles at a point and one whole turn, angles at a point on a straight line and 1/2 a turn and other multiples of 90°
- **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.
- **NUMBER: Decimals**
- Solve problems involving numbers up to three decimal places
- Solve measurement problems using all four operations
- Read, write, order and compare numbers with up to three decimal places
- Read and write decimal numbers as fractions
- Round decimals with two decimal places to the nearest whole number and to one decimal place
- Recognise and use thousandths and relate them to tenths and hundredths and decimal equivalents
- **NUMBER: Negative Numbers**
- count forwards or backwards in steps of powers of 10 for any given number to 1 000 000
- Count forwards and backwards with positive and negative whole numbers, including through zero
- **MEASUREMENT: Converting Units**
- Convert between different units of metric measure
- estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

	<ul style="list-style-type: none"> <li>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>• Recognise and use square numbers and cube numbers and the notation for them I can solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>• Solve problems involving scaling by simple fractions and problems involving simple rates</li> </ul> <p><b>NUMBER: Fractions A</b></p> <ul style="list-style-type: none"> <li>• Compare and order fractions whose denominators are all multiples of the same number</li> <li>• Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>• Recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>• Write mathematical statements <math>&gt; 1</math> as a mixed number I can 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</li> </ul>	<p><b>MEASUREMENT: Perimeter and Area</b></p> <ul style="list-style-type: none"> <li>• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> <li>• Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres and square metres and estimate the area of irregular shapes</li> <li>• Convert between different units of metric measure</li> <li>• solve problems involving measure, using the four operations</li> <li>• Understand and use approximate equivalences between metric units and common imperial units</li> <li>• Estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]</li> </ul> <p><b>STATISTICS</b></p> <ul style="list-style-type: none"> <li>• Solve comparison, sum and difference problems using information presented in a line graph</li> <li>• Complete, read and interpret information in tables, including timetables</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres and square metres and estimate the area of irregular shapes</li> <li>• Understand and use approximate equivalences between metric units and common imperial units</li> <li>• Solve measurement problems using all four operations</li> </ul>
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