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| **Year 5** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

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| Autumn | **Number: Place Value** I can read, write and represent numbers to 100,000. I can round any number up to 100,000 to the nearest 10, 100 and 1,000.I can compare and order numbers to 100,000.I can round numbers to the nearest 10,000 and 100,000.I can read, write and represent numbers to 1,000,000.I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000E.g. count from 67 000 in 10000sI can compare and order numbers to 1,000,000.I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zeroI can read Roman numerals to 1000 (M) and recognise years written in Roman numerals | **Number: Addition and Subtraction** I can add whole numbers with more than 4 digits, including using formal written methods.I can subtract whole numbers with more than 4 digits, including using formal written methods.I can round to estimate and approximate answers.I can add and subtract numbers mentally with increasingly large numbers. | **Number: Multiplication and Division A**I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbersI know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbersI know how to find primes up to 100 and recall primes up to 19.I can recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).I can multiply and divide whole numbers by multiples of 10, 100 and 1000. | **Number: Fractions A**I can identify, name and write equivalent fractions of any given fraction.I can recognise mixed numbers and improper fractions and convert from one form to the other.I can compare and order fractions less than one, whose denominators are all multiples of the same number.I can compare and order fractions greater than one, whose denominators are all multiples of the same number.I can add fractions with the same denominator and denominators that are multiples of the same number.I can add mixed numbers.I can subtract fractions with the same denominator and denominators that are multiples of the same number.I can subtract, breaking the whole (e.g. 2 ¾ - 7/8 – children need to exchange from a whole amount).I can subtract two mixed numbers. |
| **Representations and structure**Part part whole, bar model, number track, number lines, place value chartPlace value counters, base 10, double-sided colour counters for negative numbers. | **Fluency**Automaticity of number bonds to apply to larger numbers.**Representations and structure**Part part whole, bar model, number track, number lines, place value chartPlace value counters, base 10, cubes. |  | **Fluency**Automaticity of multiplication and division facts up to 12 x 12.**Representations and structure**Hundred square, number lines, number tracks, arrays, place value chart.Numicon, digit cards, place value counters, base 10.\*equal groups of representations |  |

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| Spring | Consolidate | **Number: Multiplication and Division**I can 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 to solve problems.I can 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. | **Number: Fractions** I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.I can find fractions of an amount.I can use fractions as operators. | **Number: Decimals and Percentages** I can read, write, order and compare decimal numbers to 2 decimal places.I can read, write, order and compare decimal numbers as fractions, including tenths and hundredths.I can understand thousandths.I can understand thousandths as decimals.I can round to 1 decimal place.I can read, write, order and compare decimal numbers.I can recognise and understand the percent symbol and write percentages as a fraction with denominator of a 100 & as a decimal (equivalence). | **Measurement: Perimeter and Area**I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metresI can 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 | **Statistics**I can solve comparison, sum and difference problems using information presented in a line graph I can complete, read and interpret information in tables, including timetables. |
| **Fluency**Automaticity of multiplication and division facts up to 12 x 12.**Representations and structure**Hundred square, number lines, number tracks, arrays, place value chart.Numicon, digit cards, place value counters, base 10.\*equal groups of representations | **Fluency**Can understand that when using equivalence, I must apply the same rule to the numerator as the denominator (and vice versa).In mixed numbers, I can understand that I add the wholes then the parts.When subtracting mixed numbers, I understand the number of parts that make the whole and that they can be used to support with subtraction when breaking the whole (e.g. 2 ¾ - 7/8 so the children would use equivalence to convert ¾ to 6/8 and recognise that 6/8 – 7/8 is not possible so they will need to use one of the one wholes and add it to the 6/8 to get 14/8 to complete the subtraction. The answer would be 1 7/8).Can count in fractions.Can understand that when the numerators and denominators are the same, this is equal to one whole.Can understand that when comparing unit fractions the smaller the denominator, the larger the fraction (e.g. ½ > 1/3).Can understand that when the denominators are the same, normal rules of arithmetic apply (e.g. 3/7 + 2/7 = 5/7)**Representations and structure**Bar model, shape, non-examples and examples (e.g. not two equal parts, compared to two equal parts), number line (with pictorial representations and fraction form), part part whole. | **Fluency**Know that the decimal place is a fixed point to the right of the ones.Can understand that tenths are larger than hundredths and hundredths are larger than thousandths (e.g. 0.1 is larger than 0.01, 0.001 is smaller than 0.01).Can understand that when comparing and ordering decimals they need to apply their knowledge of place value.**Representations and****structure**Bar model, shape, non-examples and examples (e.g. not two equal parts, compared to two equal parts), number line (with pictorial representations and fraction form), part part whole, hundred grid, place value model, dienes, rods and flats, rulers and tape measures. |  |  |

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| Summer | **Geometry: Property of** **Shape**I can identify 3-D shapes, including cubes and other cuboids, from 2-D representationsI can know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles I can draw given angles, and measure them in degrees (o ) I can identify: angles at a point and one whole turn (total 360o ) angles at a point on a straight line and 2 1 a turn (total 180o ) other multiples of 90o I can use the properties of rectangles to deduce related facts and find missing lengths and angles I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles | **Geometry: Position and Direction**I can 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 and Percentages**I can add decimals within 1.I can subtract decimals within 1.I can make the whole when adding decimals.I can add decimals, crossing the whole.I can add and subtract decimals with the same number of decimal places.I can add and subtract decimals with a different number of decimal places.I can add and subtract wholes and decimals.I can recognise decimal sequences.I can multiply decimals by 10, 100 and 1,000.I can divide decimals by 10, 100 and 1,000. | **Number:** Negative numbersI can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero | **Measurement: Converting units**I can convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) I can understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints | **Measurement: Volume**I can estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] |
|  |  | **Fluency**Can fluently count in tenths, hundredths, thousandths and known multiples.Know number bonds to 10 and 100, to apply to 1 whole.Know that the decimal place is a fixed point to the right of the ones.When multiplying by 10, 100 or 1,000 the digits move to the left (the 0 place value holders tell you the number of place value columns to move).When dividing by 10, 100 or 1,000 the digits move to the right (the 0 place value holders tell you the number of place value columns to move).Know to put place value holder ‘0’ when adding or subtracting decimals with a different number of decimal places.**Representations and****structure**Bar model, shape, non-examples and examples (e.g. not two equal parts, compared to two equal parts), number line (with pictorial representations and fraction form), part part whole, hundred grid, place value model, dienes, rods and flats, rulers and tape measures, money. |  |  |  |  |