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| **Year 6** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Autumn | **Number: Place Value**    I can read, write and represent numbers to 10,000,000 and determine the value of each digit.  I can compare and order any number up to 10 000 000.  I can round any whole number to a required degree of accuracy  I can use negative numbers in context, and calculate intervals across zero | | **Number: Addition, Subtraction, Multiplication and Division**  I can add and subtract integers.  I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 giving answers up to 3 decimal places.  I can multiply up to 4 digits by a two-digit whole number using the formal written method of long multiplication.  I can divide using factors (mental methods and short division).  I can 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.  I can identify common factors, common multiples and prime numbers.  I can explore the order of operations using brackets; for example, 2 + 1 x 3 = 5 and (2 + 1) x 3 = 9  I can perform mental calculations, including with mixed operations, large numbers and applying knowledge of known facts.  I can apply my knowledge of squared and cubed numbers to explore the relationship between them.  **I can estimate to check answers to calculations to help determine an appropriate degree of accuracy (throughout all operations).** | | | | | **Number: Fractions**  I can use common factors to simplify fractions.  I can use common multiples to express fractions with the same denominator.  I can compare and order fractions, including fractions > 1 using the denominator.  I can compare and order fractions, including fractions > 1 using the numerator.  I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.  I can multiply fractions by integers.  I can multiply simple pairs of proper fractions, writing the answer in its simplest form.  I can divide proper fractions by whole numbers.  I can associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,3/8].  I can find fractions of an amount.  I can find the whole, if I know the value of the fraction (e.g. if ¼ is 80g, what is the whole?) | | | | Measurement: Converting Units  I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate  I can 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 three decimal places I can convert between miles and kilometres |
| **Representations and structure**  Part part whole, bar model, number track, number lines, place value chart  Place value counters, base 10, double-sided colour counters for negative numbers. | | **Fluency**  Knowledge of times tables and division facts up to 12 x 12.  Automaticity of number bonds to apply to larger numbers.  **Representations and structure**  Part part whole, bar model, number track, number lines, place value chart  Place value counters, base 10, cubes. | | | | | **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)  When comparing fractions, I can use what I already know (rather than always resorting to equivalence).  Can fluently apply times table and division fact knowledge when finding equivalence and simplifying fractions.  When the integer is divisible by the numerator, I can divide (rather than reciprocal method).  **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. | | | |  |

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| **Year 6** | 1 | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | | 10 | | 11 | | | 12 | |
| Spring | **Number: Ratio**  I can understand the language of ratio.  I can make links between fractions and ratio.  I can recognise the symbol for ratio.  I can use scale factors.  I can calculate scale factors.  I can solve ratio and proportion problems. | | | | **Number: Algebra**  I can find and express a one-step rule.  I can find and express a two-step rule.  I can form expressions using algebra.  I can use symbols and letters for substitution.  I can use formulae.  I can form equations.  I can solve one step equations.  I can solve two step equations.  I can find pairs of numbers that satisfy an equation with two unknowns  I can generate and describe linear number sequences. | | | | **Number: Decimals**  I can read, write and order up to three decimal places.  I can multiply by 10, 100 and 1,000.  I can divide by 10, 100 and 1,000.  I can multiply one-digit numbers with up to two decimal places by whole numbers.  I can divide one-digit numbers with up to two decimal places by whole numbers.  I can use written division methods in cases where the answer has up to two decimal places.  I can recall and use equivalences between simple fractions and decimals. | | | | **Number: Fractions, Decimals and Percentages**  I can convert fractions to percentages.  I can recognise equivalent FDPs.  I can order FDP.  I can find percentages of an amount.  I can find the missing value. | | | **Measurement:**  Perimeter, Area and Volume  I can recognise that shapes with the same areas  can have different perimeters and vice versa  I can recognise when it is possible to use formulae  for area and volume of shapes  I can calculate the area of parallelograms and triangles  Icalculate, estimate  and compare volume of cubes and cuboids using  standard units, including cubic centimetres (cm3 )  and cubic metres (m3 ), and extending to other units  [for example, mm3 and km3 ]. | | | | | Statistics:  I can interpret and construct pie charts and line graphs and use these to solve problems  I can calculate and interpret the mean as an average. | | | | | |
| **Fluency**  Understand that  a ratio shows the  relationship  between two  values and can  describe how one  is related to  another.  Know that the  colon symbol  links to the  language ‘for  every…, there  are…’  Apply multiple  knowledge to  scaling (e.g. five  times as big).  **Representations**  **And structure**  Bar model, counters, cubes, shape. | |  | | | | **Fluency**  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).  **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. | | | | **Fluency**  Understand that percentage means part per 100.  Use understanding of finding ½, ¼, 1/10 and make links to percentages (e.g. 50% = ½).  **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. | | | |  | |  |  | |  | |  |  | |  | |

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| Summer | **Geometry: Properties of Shapes**  I can draw 2-D shapes using given dimensions and angles  I can recognise, describe and build simple 3-D shapes, including making nets  I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons  I can illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.  I can 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:**  I can describe positions on the full coordinate grid (all four quadrants) I can draw and translate simple shapes on the coordinate plane, and reflect them in the axes. | SATs Preparation | | | | | | | | |