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| **OVERVIEW**  **Year 6** | **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| **Number & 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 zero * solve number and practical problems that involve all of the above. | * solve number and practical problems that involve all of the above. | * 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 zero * solve number and practical problems that involve all of the above. | * solve number and practical problems that involve all of the above. | * solve number and practical problems that involve all of the above | * solve number and practical problems that involve all of the above |
| **Number – addition, subtraction,**  **multiplication and division** | * perform mental calculations, including with mixed operations and large numbers | * use their knowledge of the order of operations to carry out calculations involving the four operations | * perform mental calculations, including with mixed operations and large numbers | * use their knowledge of the order of operations to carry out calculations involving the four operations | * perform mental calculations, including with mixed operations and large numbers | * use their knowledge of the order of operations to carry out calculations involving the four operations |
| * 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   identify common factors, common multiples and prime numbers   * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | * 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   identify common factors, common multiples and prime numbers   * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | * 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   identify common factors, common multiples and prime numbers   * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |
| **Fractions** | * use common factors to simplify fractions; use common multiples to express fractions in the same denomination * compare and order fractions, including fractions > 1   identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places | * add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions * associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, ] | * multiply simple pairs of proper fractions, writing the answer in its simplest form [for example,  × = ] * divide proper fractions by whole numbers [for example,  ÷ 2 = ] | * use common factors to simplify fractions; use common multiples to express fractions in the same denomination * compare and order fractions, including fractions > 1   identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places | * add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions * associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, ] | * multiply simple pairs of proper fractions, writing the answer in its simplest form [for example,  × = ] * divide proper fractions by whole numbers [for example,  ÷ 2 = ] |
| **Measurement** | * solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate * versa, using decimal notation to up to three decimal places * convert between miles and kilometres | * recognise that shapes with the same areas can have different perimeters and vice versa * 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 * 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, | * solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate * versa, using decimal notation to up to three decimal places * convert between miles and kilometres | * recognise that shapes with the same areas can have different perimeters and vice versa * 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 * 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 (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]. |
| **Ratio and Proportion** | * solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts * solve problems involving unequal sharing and grouping using knowledge of fractions and multiples | * 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 unequal sharing and grouping using knowledge of fractions and multiples | * 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. | * solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts * solve problems involving unequal sharing and grouping using knowledge of fractions and multiples | * 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 unequal sharing and grouping using knowledge of fractions and multiples | * 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 two unknowns | * use simple formulae * generate and describe linear number sequences * enumerate possibilities of combinations of two variables | * express missing number problems algebraically * find pairs of numbers that satisfy an equation with two unknowns | * use simple formulae * generate and describe linear number sequences * enumerate possibilities of combinations of two variables | * express missing number problems algebraically * find pairs of numbers that satisfy an equation with two unknowns |
| **Geometry** | * 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 | * 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 | * recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. | * 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. |
| **Position & Direction** | * describe positions on the full coordinate grid (all four quadrants) * draw and translate simple shapes on the coordinate plane, and reflect them in the axes. |  | * describe positions on the full coordinate grid (all four quadrants) * draw and translate simple shapes on the coordinate plane, and reflect them in the axes |  | * describe positions on the full coordinate grid (all four 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. |  | * interpret and construct pie charts and line graphs and use these to solve problems * calculate and interpret the mean as an average. |  | * interpret and construct pie charts and line graphs and use these to solve problems * calculate and interpret the mean as an average. |
| **Using & Applying** | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. |