

| Y5/6 Block A Term 1 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 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 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. | <p>Addition and subtraction</p> <ul style="list-style-type: none"> 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 <p>Measures</p> <ul style="list-style-type: none"> convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre) understand and use basic equivalences between metric and common imperial units such as inches, pounds and pints <p>Geometry: properties of shapes</p> <ul style="list-style-type: none"> know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (°) identify: <ul style="list-style-type: none"> angles at a point and one whole turn (total 360°) angles at a point on a straight line and ½ a turn (total 180°) multiples of 90° | <p>Addition and subtraction</p> <ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <p>Measures</p> <ul style="list-style-type: none"> 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 three decimal places convert between miles and kilometres Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places <p>Geometry: properties of shape</p> <ul style="list-style-type: none"> 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 |

| Y5/6 Block B Term 1 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> read, write, order and compare numbers to at least 1 000 000 (10,000,000) 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 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 of the above interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero 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. | Year 5 | Year 6 |
| | <p>Multiplication and division</p> <ul style="list-style-type: none"> identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. 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 and divide numbers mentally drawing upon known facts recognise and use square numbers and cube numbers, and the notation for squared (\square) and cubed (cube) <p>Fractions, decimals and percentages (check prior knowledge before attempting)</p> <ul style="list-style-type: none"> 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 and use thousandths and relate them to tenths, hundredths and decimal equivalents read, write, order and compare numbers with up to three decimal places read and write decimal numbers as fractions (e.g. $0.71 = 71/100$) | <p>Multiplication and division</p> <ul style="list-style-type: none"> identify common factors, common multiples and prime numbers multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication solve problems involving multiplication and division <p>Algebra (do within multiplication and division)</p> <ul style="list-style-type: none"> Generate and describe linear number sequences Express missing number problems algebraically <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> compare and order fractions, including fractions >1 identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places recall and use equivalences between simple fractions, decimals and percentages, including in different contexts |

| Y5/6 Block C Term 1 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 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 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. | <p>Addition and subtraction</p> <ul style="list-style-type: none"> 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. <p>Statistics</p> <ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables <p>Measures</p> <ul style="list-style-type: none"> understand and use basic equivalences between metric and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling <p>Geometry: position and direction</p> <ul style="list-style-type: none"> 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 | <p>Addition and subtraction</p> <ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers solve problems involving addition and subtraction solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <p>Algebra (do within addition and subtraction)</p> <ul style="list-style-type: none"> Find pairs of numbers that satisfy an equation with two unknowns <p>Statistics</p> <ul style="list-style-type: none"> interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average <i>median, mode, range and probability for 2015</i> <p>Measures</p> <ul style="list-style-type: none"> 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 three decimal places convert between miles and kilometres Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places <p>Geometry: position and direction</p> <ul style="list-style-type: none"> describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes |

| Y5/6 Block D Term 1 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 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 of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals 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. | <p>Multiplication and division</p> <ul style="list-style-type: none"> 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 of two-digit numbers 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 using their knowledge of factors and multiples, squares and cubes. <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> recognise mixed numbers and improper fractions and convert from one form to the other multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction | <p>Multiplication and division</p> <ul style="list-style-type: none"> 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 use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions <p>Ratio and proportion</p> <ul style="list-style-type: none"> 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 |

| Y5/6 Block A Term 2 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 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 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. | <p>Addition and subtraction</p> <ul style="list-style-type: none"> 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 <p>Measures</p> <ul style="list-style-type: none"> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 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 <p>Geometry: properties of shapes</p> <ul style="list-style-type: none"> 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 <p>Statistics</p> <ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in line graphs complete, read and interpret information in tables, including timetables probability (old curriculum) | <p>Addition and subtraction,</p> <ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <p>Measures/Shape</p> <ul style="list-style-type: none"> Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area and volume of shapes (algebra) Calculate the area of parallelograms and triangles draw 2-D shapes using given dimensions and angles illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <p>Statistics</p> <ul style="list-style-type: none"> interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average (also need to mode, median and range from old curriculum) probability (old curriculum) |

| Y5/6 Block B Term 2 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 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 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. | Year 5 | Year 6 |
| | <p>Multiplication and division</p> <ul style="list-style-type: none"> 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 1000 solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> compare and order fractions whose denominators are all multiples of the same number add and subtract fractions with the same denominator and denominators that are multiples of the same number recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. | <p>Multiplication and division</p> <ul style="list-style-type: none"> 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. solve problems involving multiplication and division <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> use common factors to simplify fractions; use common multiples to express fractions in the same denomination multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$) divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$). <p>Ratio and proportion</p> <ul style="list-style-type: none"> solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison |

| Y5/6 Block C Term 2 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 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 of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 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 solve number and practical problems that involve all place value applications. use negative numbers in context, and calculate intervals across zero | <p>Addition, subtraction, multiplication and division</p> <ul style="list-style-type: none"> 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. solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <p>Geometry: properties of shapes</p> <ul style="list-style-type: none"> identify 3-D shapes, including cubes and cuboids, from 2-D representations distinguish between regular and irregular polygons based on reasoning about equal sides and angles <p>Measures</p> <ul style="list-style-type: none"> convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre) understand and use basic equivalences between metric and common imperial units such as inches, pounds and pints estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water solve problems involving converting between units of time | <p>Addition and subtraction, multiplication and division</p> <ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction, multiplication and division use their knowledge of the order of operations to carry out calculations involving the four operations <p>Algebra</p> <ul style="list-style-type: none"> express missing number problems algebraically enumerate all possibilities of combinations of two variables <p>Geometry: properties of shape (revision)</p> <ul style="list-style-type: none"> 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. Solve problems involving similar shapes where the scale factor is known or can be found (r&p) <p>Measures (Revision where needed)</p> <ul style="list-style-type: none"> use, read, write and convert between standard units, converting measurements of length, |

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| | | <p>mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places</p> <ul style="list-style-type: none"> • convert between miles and kilometres • calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm³) and cubic metres (m³) and extending to other units, such as mm³ and km³. |
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| Y5/6 Block D Term 2 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> • Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling • Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> • 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 through zero | <p>Multiplication and division</p> <ul style="list-style-type: none"> • multiply and divide numbers up to 4 digits by a one- or two digit number using a formal written method, including long multiplication of two-digit numbers • 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. <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> • round decimals with two decimal places to the nearest whole number and to one decimal place • solve problems involving number up to three decimal places • recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as | <p>Addition and subtraction, multiplication and division (problem solving revision and gap filling)</p> <ul style="list-style-type: none"> • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • multiply one-digit numbers with up to two decimal places by whole numbers • 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 • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy |

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| <ul style="list-style-type: none"> 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 of the above read, write, order and compare numbers up to 10 000 000 and determine the value of each digit solve number and practical problems that involve all place value applications use negative numbers in context, and calculate intervals across zero | <p>a fraction with denominator hundred, and as a decimal fraction</p> <ul style="list-style-type: none"> 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 with a denominator of a multiple of 10 or 25 <p>Geometry: Position and direction</p> <ul style="list-style-type: none"> 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 | <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$). use written division methods in cases where the answer has up to two decimal places solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <p>Algebra</p> <ul style="list-style-type: none"> generate and describe linear number sequences find pairs of numbers that satisfy number sentences involving unknowns <p>Geometry : position and direction</p> <ul style="list-style-type: none"> describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the co-ordinate plane, and reflect them in the axis |
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| Y5/6 Block A Term 3 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <p>Year 5</p> <ul style="list-style-type: none"> 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 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 of the above <p>Year 6</p> <ul style="list-style-type: none"> read, write, order and compare numbers up to 10 000 000 and determine the value of each digit solve number and practical problems that involve all place value applications. use negative numbers in context, and calculate intervals across zero | <p>Addition and subtraction</p> <ul style="list-style-type: none"> 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 <p>Multiplication and division</p> <ul style="list-style-type: none"> 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 of two-digit numbers 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. <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams solve problems involving number up to three decimal places 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 with a denominator of a multiple of 10 or 25 | <p>Addition and subtraction, multiplication and division</p> <ul style="list-style-type: none"> divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context perform mental calculations, including with mixed operations and large numbers 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 solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$). solve problems which require answers to be rounded to specified degrees of accuracy use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including |

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| | <p>Measures</p> <ul style="list-style-type: none"> • solve problems involving converting between units of time • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes | <p>fractions >1</p> <ul style="list-style-type: none"> • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers <p>Measures</p> <ul style="list-style-type: none"> • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units, such as mm^3 and km^3. • solve problems involving converting between units of time (revision / starter) <p>Algebra</p> <ul style="list-style-type: none"> • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy number sentences involving two unknowns • enumerate all possibilities of combinations of two variables |
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| Y5/6 Block B Term 3 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 through zero solve number problems and practical problems that involve all of the above | Year 5 | Year 6 |
| | <p>Addition and subtraction</p> <ul style="list-style-type: none"> 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 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. <p>Multiplication and division</p> <ul style="list-style-type: none"> 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 1000 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. <p>Geometry: properties of shapes</p> <ul style="list-style-type: none"> know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (°) identify: <ul style="list-style-type: none"> angles at a point and one whole turn | <p>Revision programme</p> <p>Ensure children are fluent in number and able to calculate efficiently.</p> <p>Include short practice sessions on key skills such as counting, rounding, estimating and calculating mentally (with jottings!), scaling up and down (x/÷ by 10, 100, 1000), patterning to see rules for sequences or generate old for new (if I know this, what else do I know), partitioning in different ways.</p> <p>Give children opportunities to practice accurate measuring of length, angle etc. including use of a protractor.</p> <p>Offer both contextual problems and pure number and shape puzzles to encourage children to reason and problem solve using heuristics~ being systematic, checking, making lists, starting from a simple problem or calculation (usually with zero or one) and building up by patterning, drawing diagrams and making informal jottings and so on.</p> <p>Make sure children are asking the right questions when faced with a mathematical problem:</p> <ul style="list-style-type: none"> What is the same and what is different? If I know this, what else do I know? How many different ways could I show this? <p>Model revision strategies for the children such as making A5 reminder cards of key facts and practising different ways of showing the same</p> |

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| | <p>(total 360°)</p> <ul style="list-style-type: none"> ○ angles at a point on a straight line and ½ a turn (total 180°) ○ multiples of 90° <p>Geometry: Position and direction</p> <ul style="list-style-type: none"> • 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 | <p>answer.</p> <p>For 2015 SATs, remember to include all three averages plus range and probability</p> <p>For 2016 SATs, there is no probability and no mental maths test.</p> |
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| Y5/6 Block C Term 3 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> • Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling • Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> • 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 • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 | Year 5 | Year 6 |
| | <p>Addition and subtraction</p> <ul style="list-style-type: none"> • 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 <p>Multiplication and division</p> <ul style="list-style-type: none"> • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. • 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 and divide numbers mentally drawing upon known facts • divide numbers up to 4 digits by a one-digit | <p>Revision programme</p> <p>Ensure children are fluent in number and able to calculate efficiently.</p> <p>Include short practice sessions on key skills such as counting, rounding, estimating and calculating mentally (with jottings!), scaling up and down (x/÷ by 10, 100, 1000), patterning to see rules for sequences or generate old for new (if I know this, what else do I know), partitioning in different ways.</p> <p>Give children opportunities to practice accurate measuring of length, angle etc. including use of a protractor.</p> <p>Offer both contextual problems and pure number and shape puzzles to encourage children to reason and problem solve using heuristics~ being systematic, checking, making lists, starting from a simple problem or calculation (usually with zero or</p> |

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| <ul style="list-style-type: none"> • solve number problems and practical problems that involve all of the above • | <p>number using the formal written method of short division and interpret remainders appropriately for the context</p> <ul style="list-style-type: none"> • recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) • 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 <p>Geometry: properties of shapes</p> <ul style="list-style-type: none"> • know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles § draw given angles, and measure them in degrees (o) • 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 <p>Statistics</p> <ul style="list-style-type: none"> • solve comparison, sum and difference problems using information presented in line graphs <p>complete, read and interpret information in tables, including timetables</p> | <p>one) and building up by patterning, drawing diagrams and making informal jottings and so on.</p> <p>Make sure children are asking the right questions when faced with a mathematical problem:</p> <ul style="list-style-type: none"> • What is the same and what is different? • If I know this, what else do I know? • How many different ways could I show this? <p>Model revision strategies for the children such as making A5 reminder cards of key facts and practising different ways of showing the same answer.</p> <p>For 2015 SATs, remember to include all three averages plus range and probability</p> <p>For 2016 SATs, there is no probability and no mental maths test.</p> <p>Practice papers: Don't overdo this!</p> <p>Include a range of questions at the same level and sometimes about the same area of maths. These could be five minute sessions or whole lessons with collaboration between learners.</p> <p>Do not waste time testing what children do not know by giving them lots of practice papers under test conditions.</p> <p>Try using AfL and then targeting the types of questions each child needs with correctly modelled answers to support the child.</p> |
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| Y5/6 Block D Term 3 (15 lessons) | Learning Objectives : <i>By the end of this sequence of lessons all pupils will be able to.....</i> | |
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| | Year 5 | Year 6 |
| <p>Problem solving and reasoning</p> <ul style="list-style-type: none"> Solve one and two-step problems involving whole numbers, simple fractions and decimals, money and measures, including time and temperature, perimeter and applying multiplicative scaling Identify and describe patterns, properties and relationships to establish invariants, apply in unfamiliar situations to make deductions; investigate a given statement and test with examples; collect data to create graphs and support an argument <p>Number and Place Value</p> <ul style="list-style-type: none"> 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 solve number problems and practical problems that involve all of the above | <p>Addition and subtraction</p> <ul style="list-style-type: none"> 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 contexts, deciding which operations and methods to use and why. <p>Multiplication and division</p> <ul style="list-style-type: none"> 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 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. <p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams solve problems involving number up to three decimal places <p>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 with a denominator of a multiple of 10 or 25</p> | <p>Contact your main Secondary feeder.</p> <p>Work with them to construct a couple of units of work for Y6 that will prepare them for the first few weeks of Year 7.</p> <p>Ask your secondary school which areas of maths they will be covering first.</p> <p>Plan an extended project that encourages pupils to use and apply their mathematical knowledge in a problem solving and reasoning environment.</p> <ul style="list-style-type: none"> A design project (a space station, an elephant carrier) Planning an event (school fete stall, fund raiser, trip to the theatre) Creating plans and scaled drawings, building the model (of a dinosaur, a famous building) Plan, design and make a resource or game (Top Trumps, boards games, strategy games such as Nim) |