**Maths Overview for the Spring Term**

|  |  |  |
| --- | --- | --- |
| **Reception** | **Year 1** | **Year 2** |
| Have a deep understanding of number to 10, including the composition of each number.  Subitise (recognise quantities without counting) up to 5.  Verbally count, (recognising the pattern of the counting system).  Compare quantities up to 10 in different contexts, (recognising when one quantity is greater than, less than or the same as the other quantity).  Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. | Read and write numbers from 1 to 20 in numerals and words.  Recognise the place value of each digit in a two-digit number (tens, ones) (year 2)  Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens  Compare, describe and solve practical problems for: lengths and heights [for example, long/ short, longer/shorter, tall/short, double/half]  Measure and begin to record the following: lengths and heights  Compare, describe and solve practical problems for: mass/ weight [for example, heavy/light, heavier than, lighter than]  Measure and begin to record the following: mass/weight  Compare, describe and solve practical problems for: capacity and volume [for example, full/ empty, more than, less than, half, half full, quarter]  Measure and begin to record the following: capacity and volume | Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value  Recognise and know the value of different denominations of coins and notes (year 1)  Find different combinations of coins that equal the same amounts of money  Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change  Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.  Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher (year 1)  Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs  Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers  Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels  Compare and order lengths, mass, volume/capacity and record the results using >, < and =  Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures |

|  |  |
| --- | --- |
| **Year 3** | **Year 4** |
| Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods  Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects  Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)  Measure the perimeter of simple 2D shapes  Recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators  Compare and order unit fractions, and fractions with the same denominators  Recognise and show, using diagrams, equivalent fractions with small denominators | Recognise and use factor pairs and commutativity in mental calculations  Recall multiplication and division facts for multiplication tables up to 12 × 12  Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers  Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects  Multiply two-digit and three-digit numbers by a one-digit number using formal written layout  Recognise and use factor pairs and commutativity in mental calculations  Convert between different units of measure [for example, kilometre to metre; hour to minute]  Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres  **Non-statutory guidance: They practise counting using simple fractions and decimals, both forwards and backwards**  Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators  Ready to progress criteria (4F–1): Reason about the location of mixed numbers in the linear number system  Compare and order unit fractions, and fractions with the same denominators  Recognise and show, using diagrams, equivalent fractions with small denominators  Ready to progress criteria (4F–2): Convert mixed numbers to improper fractions and vice versa  Add and subtract fractions with the same denominator  Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number  Recognise and write decimal equivalents of any number of tenths or hundredths  Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths |

|  |  |
| --- | --- |
| **Year 5** | **Year 6** |
| 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 the formal written method of short division and interpret remainders appropriately for the context  Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams  Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements ≥ 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5]  Read, write, order and compare numbers with up to three decimal places  Read and write decimal numbers as fractions [for example, 0.71 = 71/100]  Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents  Round decimals with two decimal places to the nearest whole number and to one decimal place  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 100, and as a decimal  Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25  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  Solve comparison, sum and difference problems using information presented in a line graph  Complete, read and interpret information in tables, including timetables | 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 the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts  Generate and describe linear number sequences  Express missing number problems algebraically  Use simple formulae  Find pairs of numbers that satisfy an equation with two unknowns  Enumerate possibilities of combinations of two variables  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  Multiply one-digit numbers with up to two decimal places by whole numbers  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  Associate a fraction with division and calculate decimal fraction equivalents [for example, 0·375] for a simple fraction [for example, 3/8 ]  Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts  Compare and order fractions, including fractions ≥1  Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison  Recognise that shapes with the same areas can have different perimeters and vice versa  Calculate the area of parallelograms and triangles  Recognise when it is possible to use formulae for area and volume of shapes  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 ] |