**Maths Overview for the Spring Term**

|  |  |  |
| --- | --- | --- |
| **Reception**  | **Year 1** | **Year 2** |
| Using quantities and objects, they add andsubtract 2 single-digit numbers and count onor back to find the answer.Children count reliably with numbers from 1 to20, place them in order.Children explore characteristics of everydayobjects.Using quantities and objects, they add andsubtract 2 single-digit numbers and count onor back to find the answer.Children explore characteristics of everydayobjects and shapes and use mathematicallanguage to describe them. | Add and subtract 1-digit and 2-digit numbers to 20, including zero.Represent and use number bonds and related subtraction facts within 20.Solve one-step problems that involve addition and subtraction, using concreteobjects and pictorial representations, and missing number problems such as 7 = ? – 9Read, write and interpret mathematical statements involving addition (+),subtraction (–) and equals (=) signs.Count to and across 100, forwards and backwards, beginning with 0 or 1, orfrom any given number.Identify and represent numbers using objects and pictorial representationsincluding the number line, and use the language of: equal to, more than, lessthan (fewer), most, least.Recognise the place value of each digit in a 2-digit number (tens, ones).Given a number, identify one more and one less.Compare and order numbers from 0 up to 100; use <, > and = signs.Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s.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 [forexample, 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. | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.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.Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.Ask and answer questions about totalling and comparing categorical data.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.Compare and sort common 2D and 3D shapes and everyday objects.Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.Order and arrange combinations of mathematical objects in patterns and sequences.Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.(Year 1 recap) recognise, find and name a half as one of two equal parts of an object, shape or quantity.Recognise, find, name and write fractions 1/3, ¼, 2/4 and 3/4 of a length, shape, set of objects or quantity.Write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and 1/2 Pupils should count in fractions up to 10, starting from any number. |

|  |  |
| --- | --- |
| **Year 3** | **Year 4** |
| 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.Write and calculate mathematical statements for multiplication and division using the multiplication tables thatthey know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.Add and subtract amounts of money to give change, using both £ and p in practical contexts.Interpret and present data using bar charts, pictograms and tables.Solve one-step and two-step questions [for example, ‘how many more?’ and ‘how many fewer?’] using information presented in scaled bar charts and pictograms and tables.Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).Measure the perimeter of simple 2-d shapes.Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.Compare and order unit fractions, and fractions with the same denominators.Solve word problems for all of the above. | 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.Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of theequals sign.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.Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying togetherthree numbers.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.Find the area of rectilinear shapes by counting squares.Estimate, compare and calculate different measures, including money in pounds and pence.Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.Recognise and show, using diagrams, families of common equivalent fractions.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.Add and subtract fractions with the same denominator.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** |
| Multiplying numbers up to 4 digits by a 1-digit number.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.Multiplying a 3-digit number by a 2-digit number, multiplying a 4-digit number by a 2-digit number.Dividing up to a 4-digit number by a 1-digit number.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.Problem solving – division with remainders.Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematicalstatements > 1 as a mixed number (for example,2/5 + 4/5 = 6/5 = 1 1/5).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.Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.Read, write, order and compare numbers with up to three decimal places.Read and write decimal numbers as fractions [for example, = 71/100).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.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 ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. | Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100and 1000 giving answers up to three decimal places.Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]Use written division methods in cases where the answer has up to two decimal places.Multiply one-digit numbers with up to two decimal places by whole numbers.Solve problems which require answers to be rounded to specified degrees of accuracy.Use written division methods in cases where the answer has up to two decimal places.Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼, X 1/2 = 1/8]Compare and order fractions, including fractions > 1.Generate and describe linear number sequences.Use simple formulae.Express missing number problems algebraically.Find pairs of numbers that satisfy an equation with two unknowns.Enumerate possibilities of combinations of two variables.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.Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.Convert between miles and kilometres.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. 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].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 similar shapes where the scale factor is known or can be found. |