Maths Whole School Progression Map							
Year Group	**Number PV**	**Number +/-**	**Number x ÷**	**Number Fraction**	**Geometry**	**Measures**	**Statistics**
Nursery	Have a deep understanding of number to 5. including the composition and comparison of each number. Subitise up to 5. Recognise the pattern of the counting system. Make comparisons between objects relating to size of group	Links numerals with amounts up to 5 and maybe beyond. Explores using a range of their own marks and signs to which they ascribe mathematical meanings. Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers.	Practical application of pairs of items: socks, shoes	Practical exploration of halves and quarters	Shows awareness of shape, and similarities and differences between objects. Talk about and explore 2D shapes using informal and mathematical language sides, corners, straight, flat Responds to and uses language of position and direction. Creates their own spatial patterns showing some organisation or regularity. Explores and adds to simple linear patterns of two or three repeating items Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next	Make comparisons between objects relating to size Recalls a sequence of events in everyday life and stories. Explores differences in size, length, weight and capacity. In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items.	Practical exploration because sorting is not covered in the EYFS Framework or Development Matters guidance for Reception. It does provide an introduction to the concept of sorting according to colour and size.
Year Group	**Number PV**	**Number +/-**	**Number x ÷**	**Number Fraction**	**Geometry**	**Measures**	**Statistics**

Reception	Have a deep understanding of number to 10, including the composition and comparison of each number. Subitise up to 5. Recognise the pattern of the counting system.	Have a deep understanding of number to 10, including the composition of each number. Subitise up to 5. Automatically recall number bonds up to 5 and some number bonds to 10, including double facts. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	Practical exploration and application of halves and quarters.	There is no specific ELG related to this unit. This unit supports the Development Matters statement Continue, copy and create repeating patterns. Exploring more complex pattern	Practical exploration because time is not covered in the EYFS Framework or Development Matters guidance for Reception. It does provide a useful introduction to time, which will be covered in Year 1. Explores differences in size, length, weight and capacity. In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items.	Practical exploration because sorting is not covered in the EYFS Framework or Development Matters guidance for Reception. It does provide an introduction to the concept of sorting, which will be useful in Year 1.
One	Numbers to 10, 20, 50, 100	Addition and subtraction within 20. Aggregation/Partitioning and augmentation and reduction Doubles and near doubles	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 **Non-statutory guidance:** Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities	Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3D shapes [for example, cuboids (including cubes), pyramids and spheres]. Recognise and create repeating patterns with objects and with shapes. Describe position, direction and movement, including whole, half, quarter and three-	Sequence events in chronological order using language. Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Measure and begin to record the following: time (hours, minutes, seconds). Recognise and know the value of different denominations of coins and notes.	Sorting

					quarter turns **Non-statutory guidance:** Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.		
Two	Recognise the place value of each digit in a three-digit number Read and write numbers up to 100in numerals and in words Identify, represent and estimate numbers using different representations (no. line, rounding etc.) Order and compare.	Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a 2-digit number and 1s. Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Recognise, find, name and write fractions 1/3 , ¼, 2/4 and3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½ Non-statutory guidelines: Pupils should count in fractions up to 10, starting from any number	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. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. compare and order lengths, mass, volume/ capacity and record the results using >, < and =	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
Three	Recognise the place value of each digit in a three-digit number Read and write	Add and subtract numbers with up to three digits, using formal written	Recall and use multiplication and division facts for the 3, 4 and 8	Recognise and use fractions as numbers: unit fractions and non-unit fractions with	Recognise angles as a property of shape or a description of a turn Identify right angles,	Measure, compare, add and subtract: lengths (m/	Interpret and present data using bar charts, pictograms and tables.

	numbers up to 1,000 in numerals and in words Identify, represent and estimate numbers using different representations (no. line, rounding etc.) Order and compare.	methods of columnar addition and subtraction Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds Solve problems, including missing number problems, using number facts, placevalue, and more complex addition and subtraction	multiplication tables 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 that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	small denominators Compare and order unit fractions, and fractions with the same denominators Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Recognise and show, using diagrams, equivalent fractions with small denominators. Add and subtract fractions with the same denominator within one whole (for example, $5/7 + 1/7 = 6/7$)	recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; Identify whether angles are greater than or less than a right angle. Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	cm/mm); mass (kg/g); volume/capacity (l/ml)	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.
Four	Recognise the place value of each digit in a three-digit number Read and write numbers beyond 1,000 in numerals and in words Identify, represent and estimate numbers using different representations (no. line, rounding etc.) Order and compare. Roman Numerals	Add and subtract numbers with up to four digits, using formal written methods of columnar addition and subtraction Add and subtract numbers mentally, including: a four-digit number and ones, a four-digit number and tens, a four-digit number and hundreds Solve problems, including missing number problems, using number facts, placevalue, and more	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 show, using diagrams, families of common equivalent fractions. 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. Count up and down in hundredths; recognise that	Identify acute and obtuse angles and compare and order angles up to two right angles by size Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	Estimate, compare and calculate different measures, including money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places. Convert between different units of measure [for example, kilometre to metre; hour to minute].	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

		complex addition and subtraction		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.	Describe positions on a 2D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down.		
Five	Recognise the place value of each digit in a three-digit number Read and write numbers beyond 10,000 up to 100,000 in numerals and in words Identify, represent and estimate numbers using different representations (no. line, rounding etc.) Order and compare.	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. 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	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	Compare and order fractions whose denominators are all multiples of the same number 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] 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	Identify: –angles at a point and one whole turn (total 360°) –angles at a point on a straight line and 1/2 a turn (total 180°) –other multiples of 90° Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (°) 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.	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.	Complete, read and interpret information in tables, including timetables. Solve comparison, sum and difference problems using information presented in a line graph.

| | | | | 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.
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
Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths | Identify 3D shapes, including cubes and other cuboids, from 2D representations.
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.
Estimate volume [for example, using 1 cm 3 blocks to build cuboids (including cubes)] and capacity [for example, using water) | | |
| **Six** | Recognise the place value of each digit in a three-digit number
Read and write numbers beyond 100,000 up to 1000,000 in numerals and in words Identify, represent and estimate numbers using different | 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 | Divide proper fractions by whole numbers (for example, 1/3 ÷ 2 = 1/6)
Add and subtract fractions with different denominators and mixed numbers, using the concept of | 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.
Recognise angles where they meet at a | 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 | Calculate the mean as an average.
Interpret and construct pie charts and line graphs and use these to solve problems.
Solve problems involving the calculation of percentages[for |

	representations (no. line, rounding etc.) Order and compare		using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Identify common factors, common multiples and prime numbers.	equivalent fractions Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, 1/4 × 1 2 = 1/8) Use their knowledge of the order of operations to carry out calculations involving the four operations **Ratio and Proportion** 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.	point, are on a straight line, or are vertically opposite, and find missing angles. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.	decimal notation to up to three decimal places.	example, of measures, and such as 15% of 360] and the use of percentages for comparison.