Lowe's Wong Infant School
Maths Progression Document

(Including the NCETM ready-to-progress criteria – for the end of the year – KS1 only)

Key Area	Foundation 1	Foundation 2	Year 1	Year 2
Counting and Place Value	Know how to subitise up to 3 objects. Know how to recite numbers past 5. Know that when counting you need to say one number for each item. Know that the last number reached when counting a small set of objects tells you how many there are. Know how to show finger numbers up to 5. Know how to match the numerals to 5 to the right number of objects. Know how to use more than and fewer than to compare quantities	Know how to sort and match pictures and objects. Know how to count forwards and backwards to ten. Know how to count objects in different arrangements by touching each one. Know that the final number is the total when counting a group. Know how to subitise numbers up to ten (recognise without counting) Know how to count out up to ten objects from a larger group. Know how to represent numbers up to 10 in different ways – including a number frame. Know that zero means nothing and it is represented as 0.	Know how to count objects accurately from a larger group. Know how to identify and represent numbers using objects and pictorial representations. Know how to compare different sets of objects, saying which one has fewer, more, the same. Know how to order numbers to 10 and know which number is greater or less or equal to in value and begin to use < > = signs. Know how to count similar objects up to 20 with accuracy and fluency. Know how to read and write all numbers up to 20 with numerals and words (encouraging correct formation of numerals)	Know how to count numbers up to 100 by making ten. Know how to read and write numbers up to 100 in words and numerals (encouraging correct formation) Know that place value can be used to compare numbers – tens and ones. Know how to use a place value chart to represent numbers. Know how to partition numbers to 100 into tens and ones. Know that two-digit numbers can be partitioned in different ways. Know how to write numbers to 100 in an expanded form.

		Know how to compare two groups of identical objects by counting with 1-1 correspondence. Know how to use the vocabulary of 'more than', 'fewer than', 'the same'? Know how to find one more and one less than a single digit number using manipulatives. Know how to count aloud beyond ten. Know that objects can be used to represent numbers to 20. Know how to sort objects into groups based on attributes. Know how to consider what is the same about all the objects in one group or set. Know how to make marks, symbols and numerals to represent amounts. Know that the cardinal number value is linked to the number system (numeral)	Know that a teen number can be described using the '10 and a bit' structure. Know how to compare numbers up to 20 using the terms '1 more' and '1 less'. Know how to use the terms 'greater than' and 'less than' to compare numbers within 20. Know how to count to and across 100 forward and backwards from any number. Know how to use place value and number facts to solve problems. Know how to place numbers on a marked number line in ones and tens, starting at different numbers up to 100. Know how to arrange numbers up to 100 in ascending and descending order. Know how to count in tens to 100. Know how to represent numbers using base 10 materials.	Know how to compare and order objects and numbers to 100 using < > and = Know how to use place value and number facts to solve simple problems. Know how to count in steps of 2, 3 and 5 from zero and in 10's from any number forwards and backwards. Know how to identify, represent and estimate numbers using different representations including the number line.

			Know that the value of the tens and ones digits in a number can be represented in different ways. Know how to compare 2 numbers using place value and determine which is bigger and smaller. Know how to compare numbers up to 100 with the same number of tens	
Ready to progress criteria			1NPV-1 Count within 100, forwards and backwards, starting with any number. 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	2NPV-1 Recognise the place value of each digit in two-digit numbers and compose and decompose two-digit numbers using standard and non-standard partitioning. 2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10
Key vocabulary	More, fewer, largest, smallest, the same, number names to 5,	Sort, match, count, total, subitise, zero, five and ten frame, more than, fewer than, one more, one less, number names to 20	Fewer, more, greater, less, number names to 100, tens, ones, greater than, less than, digit, number line,	Partition, estimate
Addition and subtraction Calculations		Know how to recognise that numbers can be made by combining smaller numbers.	Know that a number is made up of parts and a whole.	Know how to recognise fact families within 20.

		Know how to use real life objects to explore the composition of numbers up to 10. Know how to use a five or ten frame to represent parts of the number. Know how to use the part, part, whole model to represent numbers – in a practical way. Know how to record their work using mathematical jottings. Know how to combine two groups of objects to find 'how many altogether.' Know how to explore number bonds to 10 using a ten frame. Know how to begin to create number stories and develop the ability to add more. Know how to use real objects to see that the quantity of a group can be changed by taking away/crossing out. Know how to use number stories to explore subtraction in a practical way.	Know that a whole group can be composed of 2 or more parts – part, part, whole model. Know how to recognise and use +, -, = signs Know how to add 2 1-digit numbers within 10. Know how to add ones using known number bonds within 20. Know how to add by counting on from the largest number within 20. Know that the order of an addition sentence can vary. Know that addition is commutative. Know how to recall number bonds within 10. Know how to work systematically to recognise and record number bonds within 10. Know how to make addition stories using correct vocabulary. Know how to solve addition problems.	Know how to use number bonds to 10 to add numbers within 20. Know how to add and subtract ones from a given number. Know how to find 10 more and 10 less than a given number. Know how to add three 1-digit numbers. Know how to add to the next ten using their knowledge of number bonds. Know how to add and subtract a 1 digit and a 2-digit number across ten. Know how to subtract one-digit numbers from any multiple of ten within 100. Know how to add and subtract multiples of 10 from a given number within 100. Know how to add 2 two-digit numbers (not across 10) Know how to add 2 two-digit numbers where they must exchange 10 ones for a ten.

		Know how to use number stories to reinforce addition and subtraction. Know that a group of objects within 10 can be separated into groups in different ways, but that the total stays the same	Know how to find and make number bonds within 20. Know how to use number bonds to find a missing part. Know how to find 8 facts (addition and subtraction) to create a fact family for numbers to 20. Know that subtraction can be done by crossing out or taking away. Know how to subtract by counting back, using a number line for support. Know how to subtract within 20 using known number bond. Know how to recognise finding the difference as a form of subtraction. Know how to decide whether to add or subtract in simple word problems. Know how to explore missing number sentences and begin to understand inverse.	Know that the there is a commutative nature to addition and that in subtraction this doesn't happen. Know how to subtract a 2-digit number from another two-digit number without crossing the ten. Know how to subtract a 2-digit number from a 2-digit number (crossing a 10) where they must exchange 1 ten for 10 ones. Know how to use addition and subtraction facts to 20 to derive and use the related facts to 100. Know how to use addition and subtraction to solve word problems. Know how to compare number sentences using < > = Know how to solve missing number calculations.

			Know how to add 2 equal quantities together to learn about doubles. Know how to use known doubles to work out a near double.	
Ready to progress criteria			1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1AS-2 Read, write and interpret equations containing addition (+), subtraction (−) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	2AS-1 Add and subtract across 10. 2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?". 2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a twodigit number. 2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.
Key vocabulary		Add, take away, altogether, part, whole, 1 more, 1 less, five and ten frame,	Counting on, commutative, addition, subtraction, total, fact families, counting back, difference, double, near double, inverse	10 more, 10 less, multiple, exchange, missing number

Multiplication and division		Know that double means 'twice as many.' Know how to build doubles using practical objects. Know how to halve quantities by sharing objects into two equal groups. Know that sharing has to be 'fair' and have 'equal parts'. Know how to explore, in a practical way, sharing quantities into other equal sized groups. Know that numbers are odd or even and that this can be seen when sharing and grouping into pairs.	Know how to count forwards and backwards in 2, 5 and 10's. Know how to identify equal groups. Know how to add equal groups. Know how to arrange objects into rows and columns to create an array. Know that doubling is making 2 groups of the same amount. Know how to divide even numbers into equal groups using concrete materials. know how to divide even numbers equally into groups - sharing	Know how to recognise multiplication as repeated addition. Know how to make equal groups using concrete resources. Know how to find a total using repeated addition. Know how to use the x symbol to write repeated additions as a multiplication number sentence. Know how to identify 2 multiplication facts represented by an array - commutative law. Know how to solve problems using materials, arrays and repeated addition. Know that there is a link between the 2x table and doubling and halving numbers. Know how to identify if a whole number is odd or even. Know how to use the 2, 5 and 10x table to solve word problems.

Ready to progress criteria			1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD-2 Relate grouping problems where the number of groups is unknown, to multiplication equations with a missing factor, and to division equations.
Key Vocabulary		Equal, grouping, sharing, double	Pair, array	Multiplication, divide, lots of, groups of
Fractions			Know how to split an object into two equal parts, to identify shapes and objects that have been split in half. Know how to recognise and find ½ of a quantity. Know how to split an object into four equal parts and to identify shapes that have been split into four. Know how to recognise and find ¼ of a quantity.	Know how to make equal parts from a whole. Know how to recognise and find ½, ¼, 1/3 Know how to use fractions of an amount to find the whole. Know how to identify unit fractions – using the vocabulary numerator and denominator. Know how to recognise non-unit fractions e.g. 2/3

				Know how to recognise the equivalence of 2/4 and ½. Know how to count in fractions up to a whole e.g. ¼, 2/4, ¾, 4/4
Key vocabulary			Equal parts, half, quarter, fraction	Equivalent, numerator, denominator, third
Measurement	Know how to make comparisons between objects relating to size, length, weight and capacity using simple language.	**Length** Know how to use the language of length and height in practical situations e.g. taller, shorter, longer, shorter, wider, narrower. Know how to make indirect comparisons e.g. the table is longer than the ruler. **Mass** know how to make direct comparisons using their hands e.g. heavy, heavier, heaviest, light, lighter, lightest, the same or equal. know how to use balance scales to make indirect comparisons using above vocabulary.	**Length** Know how to compare length and height using key terminology – long/short, longer/shorter, tall/short, double/half. Know how to measure objects using other items. Know how to measure length/height using cm's. **Mass** Know how to compare the mass of objects using the terms 'heavy', 'light', 'heavier than' and 'as heavy as' 'lighter than'? Know how to find the mass of an object using non-standard measures.	**Length** Know how to measure length in cm and metres Know how to compare lengths and heights using relevant vocabulary and also < > Know how to order objects by length/height. Know how to solve word problems using addition, subtraction, multiplication and division involving length/height. **Mass** Know how to compare mass using relevant vocabulary and <> Know that mass is measured in grams and KG. Know how to measure mass in grams & KG.

			Know how to compare the mass of two objects using non-standard measures.	Know how to solve word problems using addition, subtraction, multiplication and division involving mass.
		Volume and Capacity Know how to use the vocabulary of capacity in play situations e.g. Full, empty, nearly full, nearly empty, half full Know how to explore capacity using a variety of resources and containers. Know how to use the vocabulary of tall, narrow, wide, shallow. Know how to make direct comparisons pouring one container into another. Know how to make indirect comparisons e.g. how many cups fill the teapot.	**Volume and capacity** Know how to compare volume and capacity using the terms 'more than' and 'less than', 'full' and 'empty'? Know how to find the volume and capacity of a container using non-standard measures. Know how to compare the capacity of two containers using non-standard measures.	**Volume and capacity** Know how to compare volume in different sized containers using greater than, less than, greatest and least & <> Know how to measure using litres and milliliters. Know how to read a scale with increasing accuracy. Know how to solve word problems using addition, subtraction, multiplication and division involving capacity/volume.
		Time Know how to order activities in their day using vocabulary of 'now, before, later, soon, after, next'? Know that the days of the week have names.	**Time** Know how to sequence events in order of time – to use the terms next, before and after, yesterday and tomorrow Know how to say the days of the week and the months of the year and be able to put them in correct order.	**Time** Know how to tell the time to o'clock & half past (analogue clock) Know how to tell the time to quarter to and quarter past the hour (analogue)

		Know how to measure time in simple ways e.g. number of sleeps. Know how to use simple timers e.g. how many jumps in ten seconds.	Know that time is measured in seconds, minutes and hours. Know that the analogue clock has a minute and hour hand. Know how to tell time to the hour on an analogue clock. Know how to tell time to half hour on an analogue clock. **Money** Know how to recognise coins and determine their value using size, colour, markings and shape. Know how to recognise notes and determine their value using colour and value. Know how to solve simple problems involving coins by counting in 2's, 5's and 10's	Know how to tell the time to 5-minute intervals – past and to the hour. Know that there are 60 minutes in an hour and 24 hours in a day. Know how to solve simple word problems. **Temperature** Know that Celsius is the unit of measure for temperature. Know how to read a scale accurately in Celsius. **Money** Know how to identify standard UK coins and notes. Know how to count money in pence. Know how to count money in pounds (notes and coins) Know how to make a given amount using notes and coins. Know how to make a pound knowing that £1 = 100p

				Know how to create equal amounts of money using different coins. Know how to compare amounts of money using appropriate vocabulary. Know how to find a total cost and to find the difference in price of two objects. Know who to calculate change from £1. Know how to solve 2 step word problems.
Key Vocabulary	Big, small, heavy, light, long, short, tall, full, empty	taller, shorter, longer, shorter, wider, narrower, heavier, heaviest, lighter, lightest, the same or equal, nearly full, nearly empty, half full, tall, narrow, wide, shallow, now, before, later, soon, after, next, days of the week	double/half, centimeters, heavier than, as heavy as, lighter than, more than, less than, volume, capacity, next, before and after, yesterday and tomorrow, months of the year, seconds, minutes, hours, o'clock, half past, coins, notes, pence, pounds	Metres, grams, Kilograms, greater than, less than, greatest and least, litres, milliliters, scale, quarter to, quarter past, Celsius, temperature, difference, change,
Geometry	Know how to select shapes appropriately e.g. a flat shape for a building, a triangular prism for a roof. Know how to combine shapes to make new ones. Know how to select shapes	Know that 3D shapes can have other shapes within it. Know how to recognise and name a circle, square, triangle and rectangle.	Know how to recognise 3D shapes – spheres, cubes, cuboids, cylinders & pyramids. Know how to name 2D shapes – square, rectangle, circle & triangle.	Know how to identify the number of sides on basic 2D shapes. Know how to identify and count the number of vertices in regular polygons.

	appropriately e.g. a flat shape for a building, a triangular prism for a roof. Know how to identify simple patterns around them e.g. on clothes. Know how to create and extend a simple ABAB pattern. Know how to describe a sequence of events using first, then, next. Know how to discuss routes and locations, using words like 'in front of' and 'behind'.	Know how to discuss things that are the same and different about 2D shapes using language such as sides, corners, straight, flat, round. Know that 2D shapes can be combined or partitioned to make new shapes. Know how to select, rotate and manipulate shapes in order to develop spatial reasoning skills. Know that 3D shapes have certain properties e.g. which ones will stack, which ones will roll. Know how to copy, continue and create simple repeating patterns. Know how to identify the unit of repeat in a pattern. Know how to use positional language to describe where something is in relation to other things using language of next to, behind, in front, over, under, around. Know how to represent real places or places in stories using maps and drawings.	Know how to group shapes using different criteria. Know how to make patterns using common 2D & 3D shapes. Know how to use the terms full, half, quarter & three quarter to describe turns. Know how to use the words - left, right, forwards, backwards, above & below to describe position. Know how to use ordinal numbers to describe position.	Know how to identify lines of symmetry in basic 2D shapes. Know how to use the vocabulary quadrilateral and polygon correctly. Know how to recognise 3D shapes by identifying their properties. Know how to describe 3D shapes and classify them using faces, vertices and edges. Know how to describe 3D shapes based on the number of faces and the 2D shapes these faces show. Know how to construct nets of shapes into 3D shapes. Know how to sort 2D and 3D shapes based on number of vertices, sides and other factors. Know how to recognise, create and describe patterns of 2d and 3d shapes and colours. Know how to move shapes on a grid from one position to another. Know how to turn objects using quarter, half and three-quarter

				turns both clockwise and anticlockwise on a square grid. Know how to recognise right angles in relation to a quarter, half and three-quarter turns – clockwise and anticlockwise. Know who to use the language of position to describe objects. Know how to describe movements using positional language. Know how to use positional and directional language to describe movement and to create shape patterns with turns
Ready to progress criteria			1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	2G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
Key Vocabulary	Square, circle, triangle, rectangle, pattern, shape, big, small, bigger, smaller, next,	next to, behind, in front, over, under, around, stack, roll cube, cuboid, sphere, cone, cylinder, sides, corners, straight, flat, round, repeat, turn, next to,	Sides, vertices, faces, edges, half, quarter, three quarter turn, left, right, forwards, backwards, above & below, first, second,	polygons, line of symmetry, quadrilateral, net, rotate, clockwise, anticlockwise, right angle,

		behind, in front, over, under, around, 2D, 3D	third, fourth, fifth, sixth, seventh, eighth, ninth, tenth.	
Statistics		Know how to experiment with their own symbols and marks, as well as numerals		Know how to make tally charts to record data. Know how to use tables to record data. Know how to read, interpret and create block diagrams with 1-1 correspondence. Know how to read, interpret and create pictograms where one symbol represents 1, 2, 5 or 10
Key Vocabulary				Tally, table, data, block diagram, pictogram, key, symbol, total, difference