



# Netherbrook Primary School



## Mathematics Curriculum Progress Model for Knowledge and Skills

	Links to KS1 curriculum	Minimum Expectations for Reception			Minimum Expectations for Nursery		
<b>Number - Counting</b>	Count to and across 100, forwards and backwards, beginning with 0 or 1 or from any given number	Count beyond 20	Count beyond 15	Count beyond 10	Count beyond 5	Count beyond 3	Says number names in an incorrect order
		Count backwards from 20	Count backwards from 15	Count backwards from 10	Count backwards from 5	Count backwards from 3	Says number names in an incorrect order
		Can recite 10+ number songs	Can recite a minimum of 5 number songs Uses number language in everyday contexts		Can recite a minimum of 3 number songs Uses number language in everyday contexts		
		Count objects to 20+	Count objects to 10+	Count objects to 5+ Understands that the last number tells you how many there are		Counts objects to 3+	Says some number names but not for each object
		Count actions/sounds to 20+	Count actions/sounds to 10+	Count actions/sounds to 5+	Count actions/sounds to 3+		
		Make a sensible guess of quantities within 10	Subitise (to 5)	Subitise (to 3)		Subitise (to 2)	Subitise (to 1)
<b>Number - recognition</b>	Begin to recognise place value in numbers beyond 20	Link numerals and amounts to 20	Link numerals and amounts to 10+	Link numerals and amounts to 5+	Links numerals and amounts to 5	Link numerals and amounts to 3	Recognises some numbers
	Identify and represent numbers using objects and pictorial	Order numbers to 20	Orders numbers to 10	Orders numbers to 5		Orders numbers to 3	

<b>Number sense</b>	representations including the number line	Partitions sets of objects using a part-part whole model, exploring composition to 10	Partitions sets of objects using a part-part whole model, exploring composition to 5	Partitions sets of objects using a part-part whole model, exploring composition to 3	
		Understands that teen numbers are 10 + ___	Knows that when a ten frame is full there are 10 objects and when one row is complete there are 5		Knows that when a five frame is full there are 5 objects and when empty there are 0
		Can use the vocabulary of 'tens' and 'ones' to explain pattern	Recognises patterns such as 6, 7, 8 and 16, 17, 18	Recognises that after each unit of 10, we go back to 1 again	
	Represent and use number bonds	Can recall all number bonds to 10, explaining the pattern	Can recall some number bonds to 10	Knows that 5 + 5 and 10 + 0 make 10	
<b>Number - Graphics</b>	Read and write numbers from 1 to 20 in numerals (and words)	Can write numbers 0-20	Can write numbers 1-10	Is able to write numbers 1-5	Experiments with their own symbols and marks, as well as numerals. Is able to write numbers of personal significance.
<b>Calculating</b>	Use the language of: equal to, more than, less than (fewer), most, least	Children understand the difference between quantity and size	Compare numbers using 'more than', 'less than' 'fewer' 'equal to'		Compares quantities using 'more than', 'less than' and 'the same'
	Given a number, identify one more or one less	Children can find 1 more than and 1 less than in mixed problems	Children can find 1 less than	Children can find 1 more than	
	Read, write and interpret mathematical symbols	Recognises that + means add and - means subtract	Understands that subtraction is removing objects	Understands that addition is the combining of sets of objects	
	Add and subtract one-digit and two-digit numbers to 20, including zero	Adds two single digit numbers totalling more than 10	Adds two single digit numbers totalling up to 10	Adds two single digits totally up to 5	Combines amounts and knows that they have 'more'

		Subtracts a single digit from a number greater than 10	Subtracts a single digit number from a number up to 10	Subtracts a single digit number from a number up to 5	Takes some away and knows that they have 'less'		
	Solve one-step problems that involve addition and subtraction	Solves real world mathematical problems with numbers to 10+	Solves real world mathematical problems with numbers to 10	Solves real world mathematical problems with numbers to 5		Solves real world mathematical problems with numbers to 3	
<b>Fractions</b>	Recognise, find and name a half as one of two equal parts of an object, shape or quantity	Understands that halving is sharing into two equal parts	Understands that sharing is splitting an amount into equal parts		Children 'share' items by giving items to their friends or teachers		
	Compare, describe and solve practical problems for double/half	Understands that doubling is adding the same number to itself					
<b>Shape</b>	Pupils should be taught to recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles	Compose and decompose 2D shapes so that children recognise a shape can have other shapes within it, just as numbers can	Explores how many corners and sides other 2D shapes have.	Explores how many corners and sides basic 2D shapes have. Is beginning to explain if the sides are 'straight' or 'curved'	Talks about and explores 2D shapes using informal and mathematical language – corners, sides Combines shapes to make other shapes	Combines shapes to make pictures Select shapes appropriately – triangular roof, square house...	
		Can identify a pentagon, octagon and hexagon		Can identify a circle, square, triangle, rectangle		Can identify a star and a heart	
	Pupils should be taught to recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres	Recognises that a cube and cuboid have very similar properties. Uses language such as faces, vertices, edge	Children recognise that the faces on a 3D shape often comprise of 2D shapes	Explores which shapes will roll and which will slide and is beginning to explain why using the vocabulary 'curved' and 'flat'	Talks about and explores 3D shapes using informal and mathematical language – corners, faces Combines shapes to make other shapes	Combines shapes to make pictures Selects shapes appropriately – cube/cuboid for a house	
		Is beginning to explore other shapes such as	Can recognise and name sphere, cube, cuboid, cylinder, cone	Can correctly recognise and name cones and spheres	Can correctly match some 3D shapes		

		pyramids and triangular prisms						
		Recognises 3D shapes in the environment			Recognises 2D shapes in the environment			
<b>Space</b>	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Recognise and complete complex repeated patterns (ABBCA)	Continue, copy and recreate repeated patterns (ABBC)	Continue, copy and recreate repeated patterns (ABB)	Creates repeated patterns with colour (AB)	Copies and continues repeated patterns with colour (AB)		
					Creates repeated patterns with shape (AB)	Can sort items by their colour or pattern	Talks about pattern in the environment (spotty, stripy...)	
					Creates repeated patterns with number (AB)	Copies and continues repeated patterns with number (AB)		
		Uses the vocabulary 'in-between', 'over' 'above', 'beneath', 'beside'				Can follow an instruction using positional language	Uses the vocabulary 'in', 'on', 'under', 'behind', 'next to'	Uses the ordinal vocabulary of 'first' and 'last'
		Can use ordinal numbers to describe position in a line						
		Completes 49-piece puzzles	Completes 35-piece puzzles	Completes 24-piece puzzles	Completes 16-piece puzzles	Completes 10-piece puzzles	Completes 5-piece puzzles	
		Design a route and explain to a friend		Describes a familiar route using directional language - 'forwards', 'backwards', 'right' and 'left'		Describes a familiar route with basic directional language – 'around', 'this way', 'that way' and positional language		Discusses locations
<b>Measurement</b>	Compare, describe and solve practical problems for lengths and heights	Uses standard measures whilst measuring size	Can order three items by length/height using non-standard measures Uses 'biggest', 'smallest', 'shortest' and 'tallest'		Make simple comparisons using 'bigger' and 'smaller', 'shorter' and 'taller'	Uses 'big' and 'small', 'short' and 'tall' to compare size		
	Compare, describe and solve practical problems for mass/weight	Uses standard measures whilst measuring weight	Can order three items by weight using non-standard measures Uses 'heaviest', 'lightest'		Make simple comparisons using 'heavier' and 'lighter'	Uses 'heavy' and 'light'		

	Compare, describe and solve practical problems for capacity and volume	Uses standard measures whilst measuring capacity	Can order three items by capacity using non-standard measures Uses 'full', 'empty', 'half empty'		Make simple comparisons using 'more' and 'less'	Uses 'full' and 'empty' to compare capacity	
	Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Children can use language before, after, yesterday, today, tomorrow	Children can identify if it takes a shorter or longer time to do something	Children can talk about significant times of the day, home time, lunch time etc... and then sequence them	Begins to describe sequences of events using next, after, later		Begins to understand the vocabulary 'first', 'last' and 'soon'
	Recognise and use language relating to dates, including days of the week, weeks, months and years	Can tell you which day comes before/after a given day	Says the days of the week in order		Knows some of the days of the week		
	Recognise and know the value of different denominations of coins and notes	Can pay for items using 1p coins	Recognises that there are different coins	Talks about the different ways we can pay for things	Understands that we need to pay for items in a shop and can talk about what they would like to buy		