Maths progress model for knowledge and skills

	Links to ks1 curriculum	Minimum expectations for reception			Minimum Expectations for nursery		
Number - counting	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)
	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

Number - recognition	Identify and represent numbers using objects and pictorial representations including the number line	Order numbers to 20	Orders numbers to 10	Orders numbers to 5		Orders numbers to 3
Number sense		**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		
Number - graphics	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.**
Calculating	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'**	**Compares quantities using 'more than'**
	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 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	
FRACTIONS	Recognise, find and name a half as one of two equal parts of an object, shape or quantity Compare, describe and solve practical problems for double/half	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		
		Understands that doubling is adding the same number to itself				
Shape	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…**

<table>
<tr><td rowspan="5"></td><td></td><td colspan="2">Can identify a pentagon, octagon and hexagon</td><td colspan="2">Can identify a circle, square, triangle, rectangle</td><td>Can identify a star and a heart</td></tr>
<tr><td rowspan="3">Pupils should be taught to recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres</td><td>Recognises that a cube and cuboid have very similar properties. Uses language such as faces, vertices, edge</td><td>Children recognise that the faces on a 3D shape often comprise of 2D shapes</td><td>Explores which shapes will roll and which will slide and is beginning to explain why using the vocabulary ‘curved’ and ‘flat’</td><td>Talks about and explores 3D shapes using informal and mathematical language – corners, faces Combines shapes to make other shapes</td><td colspan="2">Combines shapes to make pictures

Selects shapes appropriately – cube/cuboid for a house</td></tr>
<tr><td>Is beginning to explore other shapes such as pyramids and triangular prisms</td><td>Can recognise and name sphere, cube, cuboid, cylinder, cone</td><td>Can correctly recognise and name cones and spheres</td><td>Can correctly match some 3D shapes</td><td colspan="2"></td></tr>
<tr><td colspan="3">Recognises 3D shapes in the environment</td><td colspan="3">Recognises 2D shapes in the environment</td></tr>
<tr><td rowspan="5">Space</td><td rowspan="5">Describe position, direction and movement, including whole, half, quarter and three-quarter turns.</td><td rowspan="4">Recognise and complete complex repeated patterns (ABBCA)</td><td rowspan="4">Continue, copy and recreate repeated patterns (ABBC)</td><td rowspan="4">Continue, copy and recreate repeated patterns (ABB)</td><td>Creates repeated patterns with colour (AB)</td><td colspan="2">Copies and continues repeated patterns with colour (AB)</td></tr>
<tr><td>Creates repeated patterns with shape (AB)</td><td>Can sort items by their colour or pattern</td><td>Talks about pattern in the environment (spotty, stripy…)</td></tr>
<tr><td>Creates repeated patterns with number (AB)</td><td colspan="2">Copies and continues repeated patterns with number (AB)</td></tr>
<tr><td colspan="3">Uses the vocabulary ‘in-between’, ‘over’ ‘above’, ‘beneath’, ‘beside’</td><td>Can follow an instruction using</td><td>Uses the vocabulary ‘in’, ‘on’, ‘under’,</td><td>Uses the ordinal vocabulary of ‘first’ and ‘last’</td></tr>
</table>

		Can use ordinal numbers to describe position in a line			**positional language**	'behind', 'next to'	
		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**
Measurement	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,	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		

	weeks, months and years				
	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

	Number	Numerical Patterns
ELGS	• Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • 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.	• Verbally count beyond 20, 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`. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally