



Town Lane Infant School – Progression within Mathematics

<u>Concept</u>	<u>EYFS</u> Birth to 3 3 and 4 Year Olds Reception	<u>Year 1</u>	<u>Year 2</u>
Place value	I am beginning to be aware of numbers. I am interested in counting words and can be a number chanter. I am beginning to count in sequence and may use my finger to tap or point to count out objects. Subitizing I have a good number sense of 1 and two items. I can recognise and make collections of 1 to 3 objects through matching activities. <i>I may not be able to verbalise the words 1 to 3 yet.</i> Comparing I am beginning to differentiate between amounts. I can understand and use the words more or lots.	1NPV-1 Count to and across 100, forwards and backwards, from 0, 1 or any given number Read and write numbers from 1 to 20 in numerals and words Count in multiples of 2, 5 and 10 Count, read and write numbers to 100 in numerals Identify one more and one less than a given number	Count in steps of 2's, 3's and 5's from 0 and in 10's from any number – forwards and backwards 2NPV - 1 Recognise the value of each digit in two-digit numbers, and compose and decompose using standard and non-standard partitioning. Identify, represent and estimate numbers using different concrete and pictorial representations Compare and order numbers from 0 to 100; using equality symbols 2NPV-2 Reason about the location of any twodigit number in the linear number system,

Maths progression map

	Counting I am beginning to understand one to one correspondence whilst counting objects in a line or moving objects. I can use counting as part of my everyday play. I can count out to 5 verbally and may be able to count out 5 objects. I can give you the correct number of items to 3/5 if you ask me. Cardinality I can count out up to 5 fingers by counting them one by one. I understand that the last number counted is the total amount in the group. I am beginning to notice numerals in my environment. I am beginning to link numerals to a specific amount with objects and during interactive games. I can recognise my birthday number. I can recognise numbers up to 5. I can order dotted cards or stones to 5 in the correct sequence. I can represent amounts using symbols and marks. I can represent amounts using numerals. Subitizing I have a number sense of 1 to 3 objects or an amount in a picture/on a card and can verbalise this. Comparison	Can demonstrate the value of 2 digit numbers using apparatus eg Dienes, Numicon 1NPV–2 Reason about the location of numbers to 20 within the linear number system, including comparing using <>and = Use language of: equal to, more than, less than (fewer), most, least	including identifying the previous and next multiple of 10. Read and write numbers to at least 100 in numerals and words Solve problems including place value and number facts
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Maths progression map

	I can visually estimate who has more or less or the same and may subitise. Later on, I may count to compare. I can separate a group of items in different ways and realise the total is still the same. I can do this to 3 and then to 5. Counting I realise that anything can be counted I can recognise numbers up to 10. I can sequence 0-10 in order. I can count backwards from 10 to 0 verbally or when moving objects from a group. I can count on from any given number. I can tell you what number comes after or before a given number. I can see errors in other's counting or self-correct when counting. I can count in 10's and use patterns to count. Cardinality I can order the numerals to 5 in the correct sequence. I can order dotted cards, stones etc or numerals up to 10 in the correct sequence. Subitizing I can perceptually recognise items to 5 I can conceptually subitise an amount to 5 and work out different combinations of parts to get a whole.		
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	I can use things such as a 5 frame or a 10 frame to conceptually subitise. I can use conceptual subitising to group smaller amounts into a whole amount. (Part, part whole or varying combinations.) I can recall number bonds to 10 Comparison I am beginning to perceptually compare or match small amount of similar or dissimilar collections (I may count or subitise these). I am beginning to identify some ordinal number positions such as the first and second teddy in sequence. I can identify and use ordinal numbers orally to 5 and beyond. I can compare numbers to 10 and beyond even if one set of objects is a larger physical size than the other. I can estimate a larger collection of items and check by counting <i>ELG Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;</i> <i>Have a deep understanding of number to 10, including the composition of each number;</i> <i>Subitise (recognise quantities without counting) up to 5;</i> <i>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.</i>		
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	<i>Verbally count beyond 20, recognising the pattern of the counting system;</i> <i>Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;</i>		
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Maths progression map

Addition and subtraction	I understand part-whole and can give you a part of a whole amount if you ask me to give you one I can add a small amount of items together and show understanding with a matching corresponding amount even though I may not be able to verbalise this. I understand the whole is bigger than the parts but may not give an accurate answer to begin with, I just recognise that it is a bigger number. I can solve practical and real-world mathematical problems through play and using objects such as 'part part whole' and separating with objects. I am beginning to understand the concept of 1 more and 1 less and the relationship between consecutive numbers. I can add one and subtract one from a given number to 10 and say how many I have altogether. I may just know this without having to recount. I can work out the missing addend or amount taken away in a number problem sentence (such as you started with 10 apples and now have 5, what changed?).	Represent and use number bonds and related subtraction facts within 20 1NF–1 Develop fluency in addition and subtraction facts within 10. Recall at least four of the six number bonds for 10 and reason about associated facts (e.g. $6 + 4 = 10$, therefore $4 + 6 = 10$ and $10 - 6 = 4$) Add and subtract one digit and two-digit numbers up to 20, including 0. 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	2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Using concrete equipment and pictorial representations to add and subtract numbers including: - A two-digit number and ones - A two-digit number and tens - Add two two-digit numbers - Add three one-digit numbers 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
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		expressions and equations to real-life contexts. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = -$	facts: add and subtract only ones or only tens to/from a two-digit 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. Begin to practise strategies for the development of mental calculation (particularly of number bonds) Recognise and apply the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems To use concrete and pictorial representations to solve problems including addition and subtraction; quantities and measures. Children will be moving towards a written method.
Multiplication and division	I can share out a small amount of objects sometimes equally. I can share out a small amount of items equally between two or three people or toys giving one at a time to each.	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

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	ELG <i>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</i>		equations with a missing factor, and to division equations (quotitive division). Recall multiplication and division facts for the 2,5 and 10 multiplication tables Recall and recognise odd and even numbers – linking them to the multiplication tables
		Understand language of 'grouping' and 'sharing' Recall doubles and halves within 20 Use concrete equipment and pictorial representations (including arrays) to solve one-step problems involving multiplication and division.	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs Understand/ show that the multiplication of two numbers is commutative and that division by another is not Solve problems including multiplication and division using a range of concrete and pictorial representations. For example, arrays, repeated addition, mental strategies and known multiplication and division facts

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Fractions	I can recognise what is and what is not a half of a shape or object.	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 being one of four equal parts of an object, shape or quantity	Recognise, find, name and write fractions – $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ ($\frac{1}{2}$) and $\frac{3}{4}$ and apply to lengths, shapes, objects or quantities Write simple fractions. For example; $\frac{1}{2}$ of 6 = 3.
			Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
Measurement	I can recognise similarities and differences in sizes, lengths, heights, widths, weight and capacity. I can compare them as I order and/or build and play. I can learn to use language that relates to them. Birth to 3 Compare sizes, weights etc. using gesture and language - 'bigger/ little/smaller', 'high/low', 'tall', 'heavy'. Make comparisons between objects relating to size, length, weight and capacity. Compare length, weight and capacity. Becomes familiar with measuring tools in everyday experiences and play.	Measure and begin to record lengths/height, mass/weight, capacity/volume, time (seconds, minutes and hours) Compare, describe and solve practical problems (including using the correct vocabulary) for: <u>Length/height</u> (<i>long/short, taller/shorter, double/half</i>) <u>Mass/weight</u> (<i>heavy/light, heavier, lighter</i>) <u>Capacity/volume:</u> (<i>full/empty, more than, less than, half full, quarter</i>)	Compare and order lengths, mass, volume/capacity and record the results using equality symbols

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Money		Recognise and know the value of different denominations of coins and notes	Recognise and use the symbols for pounds (£) and pence (p) Combine pounds and pence to make a given value Recognise and find combinations of coins that equal the same amount of money
			Solve problems in practical contexts involving the addition and subtraction of money of the same unit, including giving change

Maths progression map

Time	I can talk about routines. I can learn to use the language of time. <i>Beginning to understand that things might happen now or at another time, in routines.</i> <i>Recalls a sequence of events in everyday life and stories.</i> <i>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</i> <i>Is increasingly able to order and sequence events using everyday language related to time.</i> <i>Beginning to experience measuring time with timers and calendars.</i>	Recognise and use language relating to dates (days of the week, weeks, months and years) Sequence events in chronological order using language of <i>before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.</i> Read and draw the time to the hour and half past the hour	Compare and sequence intervals of time Read and write the time to 5-minute intervals including quarter past/to the hour Recall the number of minutes in an hour and the number of hours in a day Choose and use an appropriate standard unit to estimate and measure length/height in any direction (cm/m); mass (g/kg); temperature(c); capacity (ml/l) to the nearest appropriate unit – using rulers, thermometers and measuring vessels
Geometry (properties of shape)	<u>Shape</u> <i>Combine objects like stacking blocks and cups. Put objects inside others and take them out again.</i> <i>Complete inset puzzles.</i> <i>Build with a range of resources.</i>	Recognise and name common 2-D shapes including rectangles, squares, circles and triangles Recognise and name common 3-D shapes including: cubes, cuboids, pyramids and spheres	Identify and describe the properties of 2-D shapes, including the number of sides and vertical/horizontal lines of symmetry Identify and describe the properties of 3-D shapes including the number of edges, vertices and faces

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	Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Combine shapes to make new ones – an arch, a bigger triangle etc. Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Uses informal language and analogies, (e.g. heartshaped and hand-shaped leaves), as well as mathematical terms to describe shapes.	Recognise the common 2-D and 3-D shapes in different orientations Recognise the similarities and differences between common 2-D and 3-D shapes 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.	Identify 2-D shapes on the surface of 3-D shapes Compare and sort common 2-D and 3-D shapes and everyday objects. Read shape names (suitable for their word reading and spelling) Draw lines and shapes using rulers 2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.
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Geometry (spacial awareness, position and direction)	I can explore the space around me. I enjoy filling and emptying a variety of containers. Responds to some spatial and positional language. I can follow and use positional language. Discuss routes and locations, using words like 'in front of' and 'behind'.	Describe position and movement including language of: whole, half, quarter and threequarter turns. Make connections between turns and movement on a clockface. Use language of left, right, top, bottom, on top of, in front of, above, between, around, near, close, far, up, down, forwards, backwards, inside and outside.	Use mathematical language to describe position, direction and movement in a straight line. Distinguish between rotation as a turn and in terms of right angles for quarter, half and threequarter turns.
	Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints. Select, rotate and manipulate shapes in order to develop spatial reasoning skills.		Use language of clockwise and anti-clockwise)

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Geometry (Patterns)	Notice patterns and arrange things in patterns. Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern I can recognise, describe, and build repeating patterns, including AB but also patterns with core units such as AAB, ABC, and AABC		Order and arrange combinations of mathematical objects (counters, cubes) in patterns and sequences Recognise and recall patterns and sequences Continue given sequences; using the recognised pattern Recognise patterns in different orientations
Statistics			Read and interpret simple pictograms, tally charts, block diagrams and simple tables Understand how to read a given key

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			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 sort categories by quantity Ask and answer questions about totalling and comparing categorical data
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