Year One

During the first autumn half-term it is expected that each group of children will take part in two adult led focus activities, including one teacher led activity and a follow up activity ran by the Teaching Assistant. Additionally, children should begin to be introduced to:

- Short whole class maths based activities, for example reciting counting sequences, singing (Mighty Multiples) – for further examples using Numicon see 'Practice and Discussion' pages of Securing Foundations' (pg. 48, 53, 59, 67, 72, 79, 85 and 90)
- Independent maths activities – see examples from 'Securing Foundations' (pg. 48, 54, 60, 67, 73, 79, 85 and 91)

Autumn 1	Weeks	Learning Outcomes
Number and Place Value	**2.5**	Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.
Addition & Subtraction	**2**	Using quantities and objects (including Numicon tiles), children add and subtract two single-digit numbers and count on or back to find the answer.
Algebra/Patterns	**3**	Children recognise, create and describe patterns.
Geometry	**On-going**	They explore characteristics of everyday objects and shapes and use mathematical language to describe them.
Problem Solving (Weekly)		Independent Numicon activities
		Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.

During the second autumn half-term, it is expected that children in Year One will begin to have daily mathematics lessons. Additionally, Numicon homework activities should begin to be sent home on a rotational basis.

Autumn 2	Week	Learning Outcomes
Number and Place Value	**1**	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
		Given a number, identify 1 more and 1 less
Addition & Subtraction	**1**	read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs
	1	Represent and use number bonds and related subtraction facts within 10
	1	To add and subtract one-digit numbers to 10, including zero.
Measurement	**1**	Measure and begin to record the following: lengths and heights
		Measure and begin to record the following: mass/weight
Problem Solving (Weekly)		Number patterns/counting problems
		Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? − 9

	Recognise, create and continue patterns with objects, shapes and colours.
	Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
	Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than]

During the first spring half-term, it is expected that children in Year One will begin to practise 'Quick Maths' regularly outside of their daily mathematics lesson.

Spring 1	Weeks	Learning Outcomes
Number and Place Value	**1**	Count, read and write numbers to 100 in numerals
		Read and write numbers from 1 to 20 in numerals and words
	1 & on-going	Count in multiples of 2s, 5s and 10s
	1	Recognise place value in numbers beyond 20 supported with practical resources
Addition & Subtraction	**1**	Represent and use number bonds and related subtraction facts within 20 – if 8 + 2 =10 what do I add to 18 to make 20?
	1	To add and subtract one-digit and two-digit numbers to 20, including zero.
Fractions	**1**	Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity
Measurement	**1**	Recognise and know the value of different denominations of coins and notes
Problem Solving (Weekly)	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9	
	Recognise, create and continue patterns with objects, shapes and numbers.	
	Introduce simple mathematical investigations through Numicon	

Spring 2		Learning Outcomes	Activities from/Linked to:
Number and Place Value	**1**	Count, read and write numbers to 100 in numerals	As above – Repeated
	1	Recognise place value in numbers beyond 20 supported with practical resources.	As above – repeated Numicon: Partitioning into tens and ones (pg. 219 – 223); Begin to find 10 more and 10 less using practical resources – E.g. Numicon number rods;
	On-going	Count in multiples of 2s, 5s and 10s	Mighty Multiples Counting from any number to include recognition of odd and even numbers. Numicon: Numbers and the Number System – Exploring number lines and counting in steps (pg. 148 – 152);
Addition & Subtraction	**1**	Represent and use number bonds and related subtraction facts within 20 – if 8 + 2 =10 what do I add to 18 to make 20?	As above – repeated Quick Maths
		To add and subtract one-digit and two-digit numbers to 20, including zero.	As above – repeated Numicon: Calculation – Understanding subtracting as 'difference' and as 'how many more?' (pg. 197 – 202)
Multiplication and Division	**1**	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	Doubling and halving (from EYFS) Counting in 2s, 5s and 10s (from Spring) Fractions (Below) There are some helpful resources at: http://topicbox.net/mathematics/multiplication/ (particularly the arrays PowerPoint).
Measurement	**1**	Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	You could ask the children to draw a picture to show something that they do in the morning, then in the afternoon and evening. They cut these out and give them to a friend to put in the right order. Register activities such as: You could display a weekly time table of activities that the children do and ask questions from it, for example: • What do we do on Wednesday morning? • What day comes two days after Monday? • What day comes before Thursday You could display a calendar and ask the children to write their name in that month in which their birthday occurs. Again, ask questions from this, such as: • Who has a birthday between June and September? • Which month is two months after 'Julie's' birthday? You could play the 'Just a minute' type game but purely related to the vocabulary of time, for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening, o'clock, half past, hands, day, week, month, year.
		Recognise and use language relating to dates, including days of the week, weeks, months and years	

Problem Solving (Weekly)	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9	Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.
	Recognise, create and continue patterns with objects, shapes and numbers.	
	Recognise and find half or a quarter of measures, quantities (of concrete objects where necessary).	An activity which includes doubling, halves and quarters in a very practical way using rods made from interlocking cubes. It gives children a practical context in which to explore simple multiplying and dividing, even if these particular terms are not used explicitly. It can provide a very useful context for introducing and using the vocabulary of halves and quarters. (http://nrich.maths.org/5590)
	Introduce simple mathematical investigations through Numicon	Numicon: Pattern and Algebra- Finding Possibilities (p.g. 133 – 135)
	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	'Share Bears' - An investigation involving the children in division by sharing, and early introduction to the concept of remainders. (http://nrich.maths.org/2358/note)

Summer 1		Learning Outcomes	Activities from/Linked to:
Number and Place Value	**1**	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Place value; Numicon: Numbers and the Number System – Exploring number lines and counting in steps (pg. 148 – 152); Use of number lines can be used as an opportunity to link learning of fractions to Number (mixed numbers), e.g. what number is half way between 1 and 2?
	On-going	Count in multiples of 2s, 5s and 10s	Mighty Multiples Counting from any number to include recognition of odd and even numbers. Numicon: Numbers and the Number System – Exploring number lines and counting in steps (pg. 148 – 152);
Fractions	**1**	Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	Multiplication & Division
Addition & Subtraction	**1**	Solve addition problems involving more than two numbers/groups	Numicon: Calculating – Adding more than two numbers (pg. 211 – 217)
Geometry	**1**	Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Potential to be taught alongside fractions above. 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. Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face. 'Movement and Position in Key Stage 1' is a collection of activities from Nrich, designed to enable the children to explore shapes, movement and position in enjoyable ways (http://nrich.maths.org/9023). Children could work in pairs with a 'barrier' between them (e.g. a large book standing upright), so that they cannot see what their partner is doing. Both children are provided with a small number of interlocking cubes. Child A has to make a model, explaining verbally exactly how they are doing this; Child B has to try to make the same model, following these instructions. Once the models are completed, the barrier is removed and children compare their models. Link to P.E.: Treasure Hunt. Link to Computing and time: Allow the children to design and set up a 'maze', through which they can direct each Beebots, with clear instructions. Set out cards numbered 1-12 on the floor in a circular arrangement to imitate a clock. A Beebot can be programmed to travel to a specific number on the 'clock', e.g. '3'. Children can predict where it will end up next, if programmed to make half a turn before travelling forwards for example. Register activity: Create a display with a selection of shapes attached by split pin fasteners; each day, rotate the shapes and talk to the children about the changes.
	1	Recognise and name common 2-D and 3-D shapes, including: 2-D	Pupils handle common 2-D and 3-D shapes, naming these and related everyday

		shapes [for example, rectangles (including squares), circles and triangles]	objects fluently. They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.
		Recognise and name common 2-D and 3-D shapes, including: 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]	An excellent problem solving activity which challenges children's perception that a triangle has to have a horizontal base (http://nrich.maths.org/5638/note). Other potential activities: feely bags, shape peg boards, shape hunts in P.E., link to art using shapes (Piet Mondrian).
Measure	**1**	Measure and begin to record the following: time (hours, minutes, seconds)	
		Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Linked to fractions/halving; Use of geared clock resources;
Problem Solving (Weekly)		Solve one-step problems that involve addition and subtraction and missing number problems such as 7 = ? – 9 using concrete apparatus where necessary.	Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.
		Numicon based investigations.	Numicon
		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	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. They make connections between arrays, number patterns, and counting in 2s, 5s and 10s.

Summer 2			Learning Outcomes	Activities from/Linked to:
Number and Place Value	**1**		Recognise and use place value in numbers beyond 20 supported with practical resources – if we know 2 + 2 is 4 what is 12 + 2? 22 + 2? 32 + 2…	Numicon tiles and rods;
	On-going		Count in multiples of 2s, 5s and 10s	Mighty Multiples; Quick Maths; Counting from any number to include recognition of odd and even numbers. Numicon: Numbers and the Number System – Exploring number lines and counting in steps (pg. 148 – 152);
Addition & Subtraction	**1**		To add and subtract one-digit and two-digit numbers to 20 (and beyond), including zero	Recognition of addition and subtraction as inverse operations; Pupils should partition numbers in different ways (for example, 23 = 20 + 3 and 23 = 10 + 13) to support subtraction.
	1		Represent and use number bonds and related subtraction facts within 20 – if 8 + 2 =10 what do I add to 18 to make 20?	Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, 9 + 7 = 16; 16 − 7 = 9; 7 = 16 − 9). They should realise the effect of adding or subtracting 0. This establishes addition and subtraction as related operations.
Multiplication and Division	**1**		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	Numicon Doubling and halving (from EYFS) Counting in 2s, 5s and 10s (from Spring) Fractions (Below)
Fractions	**1**		Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	Numicon: Calculating – Halves and quarters of wholes (pg. 192 – 195);
Measurement	**1**		Consolidation of Measurement learning outcomes through practical measuring activities.	Use of ruler, weighing scales and scaled containers.
	1		*This week is intentionally not allocated for consolidation of areas identified through assessment for learning.*	
Problem Solving (Weekly)			Solve one-step problems that involve addition and subtraction in the context of money and measure.	Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.
			Solve problems related to fractions	Happy Halving' - This problem consolidates children's understanding of halving and will help them to develop their skills of visualisation. It is important pupils are clear that, in this problem, the halves must be exactly the same size as each other. A precursor to this activity might be to show the group a square and ask them to split it in half in their "mind's eye". By discussing where they have imagined the "cutting line", the children will discover that there is more than one way to do this. From this point, you can talk about whether or not the two halves are the same size each time. It may be useful for the pupils to have a sheet of the shapes. Alternatively, they could use a pegboard to try out their ideas (http://nrich.maths.org/217).
			Recognise, create and continue patterns with objects, shapes and numbers.	