Mathematics: Number & Numerical Pattern – EYFS – KS1

LOW ASH
PRIMARY SCHOOL
Learn Achieve Persevere Succeed

		Mathematics	Key Vocabulary to be developed in EYFS	Mathematics KS1
Specific Area of Learning **Mathematics**	**3- & 4-year-olds**	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. Solve real world mathematical problems with numbers up to 5. Compare quantities using language: 'more than', 'fewer than'. 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'. Understand position through words alone – for example, "The bag is under the table," – with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. Make comparisons between objects relating to size, length, weight and capacity. 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 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. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	Ones/tens/digit the same number as as many as more/larger/bigger/greater fewer/smaller/less most/biggest/larges/greatest compare/order first, second, third... last/last but one before/after/next/between. Zero, one, two...twenty number How many ...? count (up) to, count on (from, to), count back (from, to) is the same as more/less few. Add/more/and make/sum/total altogether One more, two more ... How many more to make …? How many more is…than? Take away. How many are left over? How many have gone? One less, two less… How many less/fewer is …?	**Number – number and place value** Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens Given a number, identify one more and one less. 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 Read and write numbers from 1 to 20 in numerals and words. **Number – addition and subtraction** Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20. Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9. **Number – multiplication and division** 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.

Children in Reception	Count objects, actions and sounds. Subitise. Link the number symbol (numeral) with its cardinal number value. Count beyond ten. Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0–5 and some to 10. Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns. Compare length, weight and capacity.	Doubling, number patterns. Sharing, halving, number patterns. Parts of a whole, half, quarter.	**Number – fractions** 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 one of four equal parts of an object, shape or quantity. **Measurement** Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] mass/weight [for example, heavy/light, heavier than, lighter than] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later]

ELG	**Number**	
	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.	Measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds)
	Numerical Pattern	
	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.	Recognise and know the value of different denominations of coins and notes. Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

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– Knowledge and Skills breakdown

Nursery - Term		Autumn		Spring		Summer	
		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Learning Objectives	**Number**	Comparison 1: I can compare quantities using the language more than / fewer than Counting 1 &2: I can recite numbers past 5	Subitising 1: I can subitise up to 3 Subitising 2:				
	Pattern	Pattern 1: I can begin to notice patterns and arrange things in patterns, including songs	Pattern 2: I can notice patterns and arrange things in patterns, including songs				
	Shape	SSM 1: I can talk about and explore 2D and 3D shapes	SSM 2: I can begin to use positional vocabulary and begin to describe, explore and sort 2D and 3D shapes				

	Measure						
	Position						

Reception – Term		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Learning Objectives		I can perceptually subitise within 3. (1) I can count objects in sequence using 1:1 correspondence. (2) I can relate the counting sequence to cardinality. (2) I can see that all numbers can be made of 1's. (3) I can compose my own collections of numbers up to and including 4. (3) I can subitise to 4. (4) I can create number patterns for numbers within 4. (4) I can begin to compare groups using a range of	I can explore the cardinality of 5, linked to die patterns and fingers on 1 hand. (6) I can compare sets by looking, subitising and matching and say when sets contain the same number. (7) I can explore the concept of a 'whole.' (8) I can explore the composition of numbers within 5. (9) I can begin to count beyond 5. (10)	I can connect subitised quantities to numerals. (11) I can order numbers to 5, focusing on each number being 1 more than the previous number. (12) I can explore the composition of 5 and identify missing parts. (13) I can combine two groups to makes 6. (14) I can subitise numbers within 6. (19) I can compare equal and unequal groups to 8. (15)	I can connect the counting sequence to ordinality. (16) I can explore '1 more' and '1 less' to 10. (16) I can say which number which comes before and after it. (17) I can combine two groups to makes 7. (18) I can combine two groups to makes 8. (17) I can combine two groups to makes 9. (17) I can combine two groups to makes 10. (17)	I can sort odd and even numbers by looking at their 'tops.'(20 & 29) I can count larger amounts beyond and focus on counting strategies. (21 & 27) I can double numbers using different representations. (24) I can compare groups of objects in different contexts to 10. (25 & 28) I can see smaller numbers in larger numbers. (26) I can say 1 more and 1 less than a number to 10. (30)	I can use 5 and a bit as a key anchor in the number system. (30) I can recall the numbers within 3, 4, 5 and 10. (31) I can recall double facts up to 5 and 5 make 10. (31) Shape space and measures (WRM)

	attributes, including number. (5)			I can explore doubles. (19) I can use a ten frame to subitise numbers to ten. (22 & 23)		