



Mathematics Progression of Skills and Knowledge



	To say when they have 1 object.	To say one numeral per object with 1:1 correspondence for up to 3 objects.	To understand the concept of how many?	To say one numeral per object with 1:1 correspondence for up to 5 objects.	To count up to 5 objects from a larger group.	To count out up to 10 from a larger group, knowing that the final number said represents the total amount.	To count out up to 20 from a larger group, knowing that the final number said represents the total amount.	than, less than (fewer), most, least read and write numbers from 1 to 20 in numerals and words.	
Problem Solving and Numerical Patterns Development Matters	<ul style="list-style-type: none"> 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'. 				<ul style="list-style-type: none"> 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. 			Pupils should be taught to: read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs	
Progression of skills	To explore numerical mark making including lines, dots and numerals.				To write numbers to 20.				represent and use number bonds and related subtraction facts within 20
<i>Writing numerals</i>									
<i>Comparing quantities</i>	To know that two groups of objects can have different quantities – estimation.	To know that two groups of objects can have the same quantities.	To identify a group that has more using visual prompts and real life scenarios. E.g. sharing cars	To identify a group that has fewer objects using visual prompts and real life scenarios.	To join in with number rhymes understanding how the number changes.	To compare two groups of objects saying which group has more or fewer.	To say the number that is one more than a given number.	To say the number that is one less than a given number.	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



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Numerical patterns	Saying number names in order.		To order numbers to 10.	To order numbers to 20.	Recall number bonds to 5.	Recall number bonds to 10.	Double facts to 10.	pictorial representations, and missing number problems such as $7 = \square - 9$.	
	To count confidently in sequence to 10.		To count beyond 20.		To count in 2's.		To identify odd and even numbers.		
	Odds and evens	To understand that if you add one more to a group the total increases.	To understand that if you count all of the objects in two sets you find the total.	To use the 'first, then, now' concept to add two groups to find the total with numbers to 5.	To use the 'first, then, now' concept to add two groups to find the total with numbers to 10.	To find the total by counting on.	To apply addition strategies to solve problems in the environment.		
							To understand that if you take one away from a group the total decreases.		To count backwards from 10.
Addition							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.		
Subtraction							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.		
Shape Development Matters	<ul style="list-style-type: none"> 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'. 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. 		<ul style="list-style-type: none"> Select, rotate and manipulate shapes in order 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. 				Pupils should be taught to: recognise and name common 2-D and 3-D shapes, including:		



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Progression of skills	<i>2D shapes</i>	To show an interest in shapes. To notice shapes in the environment.	To match two shapes that are the same.	To talk about shapes that they notice. To describe some features of the shapes.	To name basic 2D shapes. To sort by shape.	To use mathematical language to describe shapes. To solve a range of jigsaws of increasing challenge.	To copy increasingly complex 2D pictures and shapes. To find different ways to manipulate and rotate to make different shapes and sizes.	To talk about /demonstrate how shapes can be combined to make other shapes.	2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	
	<i>3D shapes</i>	To explore with 3D shapes.	To notice solid objects are different shapes and being in make some comparisons.	To notice when two solid objects are the same shape.	To describe some features of a 3D shape. To find a named shape.	To name some basic 3D shapes. To use mathematical language to recognise and describe 3D shapes.	To compose and decompose 3D shapes.	To recognise 2d shapes in 3d shapes.		
<i>Using shape</i>	To stack shapes to construct.	To know you need flat shapes for balance.	To use larger shapes at the bottom to support balance.	To select shapes for a purpose.	To combine shapes to make new ones.	Use pattern set, tangrams, building blocks, magnetic construction sets, jigsaws.	To make shapes using straight and/or curved lines	To combine shapes to make different ones	To combine shapes to make different ones.	Pupils should be taught to: describe position, direction and movement, including whole, half, quarter and three quarter turns.



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Length	To understand that objects can be different lengths.	To learn vocabulary of short and long.	To compare lengths saying one is longer or shorter in practical scenarios.	To order items by length.	To use vocabulary of longer and shorter.	To apply vocabulary and knowledge to practical scenarios.	To measure using non-standard units. Eg. Cubes or hand prints.	To compare lengths using non-standard units.	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] measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) 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,
	Height	To understand that objects can be different height.	To learn vocabulary of short and tall.	To compare heights saying one is shorter or taller in practical scenarios.	To order items by height.	To use vocabulary of taller and shorter.	To apply vocabulary and knowledge to practical scenarios.	To measure using non-standard units. Eg. Cubes or hand prints.	
Weight	To understand that objects have different weight.	To introduce vocabulary of heavy and light.	To compare weight saying which object is heavier or lighter in practical situations.	To order items by weight.	To use vocabulary of lighter and heavier.	To predict the weight of objects in practical situation.	To use equipment such as balance scales to compare weights.		
Capacity	To understand that object can be filled to different capacities.		To introduce the vocabulary of full and empty in relation to practical situations. Eg. Bucket is full.	To order containers by capacity in practical situations.	To predict which container has more or less capacity.	To measure the capacity of a container and compare. E.g to compare a tall jug and a short jug.			
Time	To learn concept and vocabulary of now and next.		To be aware of the daily nursery routines.	To introduce the vocabulary	To sequence the main events of the day.	To learn and use the vocabulary of now, before, later, soon, after, then and next to	To learn and use the vocabulary of	To order days of the week	To demonstrate an awareness of



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					lary of night and day.		describe when things happen.	yesterday, today and tomorrow.	and months of the year.	the unit of a minute.	yesterday, tomorrow, morning, afternoon and evening]	
Pattern Development Matters	<ul style="list-style-type: none"> Talk about and identifies 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. 				<ul style="list-style-type: none"> Continue, copy and create repeating patterns. 						recognise and use language relating to dates, including days of the week, weeks, months and years	
<i>Pattern</i>	To show an awareness of environmental patterns.	To use pattern associated vocabulary E.g. spotty or stripy.	To comment when a pattern is repeating.	To continue and correct a repeating pattern.	To make patterns with the AB rule in a range of contexts. E.g., shapes, colours, sizes, actions and sounds.	To make patterns with the ABB rule	To make patterns with the ABBC rule	To identify patterns that do not follow rules.	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.			
ELG	<p>Number:</p> <ul style="list-style-type: none"> 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. <p>Numerical Patterns:</p> <ul style="list-style-type: none"> 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. 											