

Nursery – Mathematics				
Term	What we are learning: (Development Matters)	What a child might be doing: (Birth to 5 Matters)	Vocabulary:	Activities and Opportunities
Autumn	Baseline	-	-	-
	Counting Reciting numbers up to 3. Say one number for each item in order: 1, 2, 3	May enjoy counting verbally. Points or touches (tags each item) saying one number for each item. Use the stable order of 1, 2, 3 Uses some number names and number language within play	One, two, three	<ul style="list-style-type: none"> How many play people are in the sandpit? How many cars have we got in the garage? Counting things of different sizes
	Mark Making Experiment with their own symbols and marks.	Explores using a range of their own marks and signs to which they ascribe mathematical meanings.	One, two, three, lines, dots	
Shape Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.	Chooses items based on their shape which are appropriate for the child's purpose.	Flat, pointy, roly, brick, round	<p>Children need opportunities to construct and create things that represent objects in their environment. As they do this, they should start to notice shape properties of the object that they want to represent:</p> <ul style="list-style-type: none"> Stories as a prompt for 	

				<p>creating representations e.g. building a house for the three bears</p> <ul style="list-style-type: none"> • Making pictures with found materials, as well as structured shapes and blocks • Making a complete circuit with a train track
	<p>Subitising Develop fast recognition of up to 3 objects without having to count them individually</p>	<p>Subitises 1, 2 & 3 objects (without counting).</p>	<p>One, two, three, all of them</p>	<p>Children need opportunities to:</p> <ol style="list-style-type: none"> 1. See regular arrangements of small quantities, e.g. a dice face, structured manipulatives, etc., and be encouraged to say the quantity represented 2. recognise small amounts when they are not in the “regular” arrangement e.g. small handfuls of objects
	<p>Linking Numerals and Amounts Link numerals and amounts: for example, showing the right number of objects to match the numeral up to 3.</p>	<p>Links numerals with amounts up to 3 and maybe beyond (cardinality).</p>	<p>One, two, three, how many, matching, the same, not that one</p>	<p>Children need opportunities to have a range of number symbols available, e.g. wooden numerals, calculators, handwritten (include different examples of a number e.g. ④ 4 4 4</p> <ul style="list-style-type: none"> • Using numeral dice in games; matching numerals with varied groups of things

				<ul style="list-style-type: none"> • Reading number books
	<p>Positional Language Understand position through words alone</p>	<p>Responds to and uses language of position and direction. Uses spatial words in play.</p>	<p>In, on, up, down, under</p>	<ul style="list-style-type: none"> • Hunting for hidden objects, with some prompts, e.g. “look behind the bicycle store, take 3 steps from the front of the art cupboard ...” • Developing and talking about small-world scenarios, e.g. doll’s house, miniature village, play park
	<p>Pattern Talk about and identify the patterns around them. Use informal language to describe patterns</p>	<p>Talk about spatial patterns showing some organization or regularity.</p>	<p>Stripes on clothes, design on rugs, displays, Pointy, spotty, blobs</p>	<ul style="list-style-type: none"> • Building towers or trains of different coloured cubes • Accessing a range of patterns to copy • Collecting things outside: leaf, stick, leaf, stick ...
	<p>Measure Make comparisons between objects relating to size.</p>	<p>In meaningful contexts finds the bigger or smaller of two items.</p>	<p>Bigger/smaller</p>	<ul style="list-style-type: none"> • Encouraging children to compare different attributes in everyday situations e.g. “I wonder who has the biggest apple?” • “Please can you pass me a ... that is bigger/smaller than this one?”

	<p>Problem solving and Composition of Numbers</p> <p>Solve real world mathematical problems with numbers up to 2.</p>	<p>Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers.</p> <p>Beginning to use understanding of number to solve practical problems in play and meaningful activities.</p>	<p>One & two, one & one, put them together, how many?</p>	<ul style="list-style-type: none"> Encourage children to make arrangements with 2; talking about what they see
<p>Spring</p>	<p>Counting</p> <p>Reciting numbers up to 5.</p> <p>Say one number for each item in order: 1, 2, 3, 4, 5</p> <p>Show 'finger numbers' up to 5.</p> <p>Cardinal Principle – know that the last number reached when counting a small set of objects tells you how many there are in total</p>	<p>May enjoy counting verbally as far as they can go.</p> <p>Points or touches (tags each item) saying one number for each item.</p> <p>Use the stable order of 1, 2, 3, 4, 5</p> <p>Counts up to 5 items recognising that the last number said represents the total counted so far.</p>	<p>One, two, three, four, five</p> <p>One after the other, fingers</p> <p>5 altogether</p>	<p>Children need the opportunity to count out or “give” a number of things from a larger group, not just to count the number that are there. This is to support them on focusing on the “stopping number” which gives the cardinal value.</p> <ul style="list-style-type: none"> Playing dice games to collect a number of things Playing track games and counting along the track

	<p>Subitising Develop fast recognition of up to 3/4 objects without having to count them individually</p>	<p>Subitises 1, 2, 3/4 objects (without counting).</p>	<p>One, two, three, four, all of them</p>	<p>Children need opportunities to:</p> <ol style="list-style-type: none"> 1. See regular arrangements of small quantities, e.g. a dice face, structured manipulatives, etc., and be encouraged to say the quantity represented 2. recognise small amounts when they are not in the “regular” arrangement e.g. small handfuls of objects
	<p>Comparing Quantities and Numbers Compare quantities using language: ‘more than’, ‘fewer than’.</p>	<p>Compares two small groups of up to 3 objects, saying when there are the same (equal) number of objects in each group e.g. <i>you’ve got 2, I’ve got 2. Same!</i></p>	<p>More than, fewer than, same, different</p>	<ul style="list-style-type: none"> • Correcting a puppet who may say that there are more or fewer objects now, as they have been moved around, e.g. spread out or pushed together • Collections to sort and compare, which include objects which are identical, objects of different kinds or sizes • Collections with a large number of things, and collections with a small number of things • Compare some collections that have equal amounts

				<ul style="list-style-type: none"> Convert two unequal groups into two that have the same number e.g. “there are 6 apples in one bag and two in another; can we make the bags equal for the two hungry horses?”
	<p>Shape Combine shapes to make new ones – an arch, a bigger triangle etc.</p>	<p>Attempts to create arches and enclosures when building, using trial and improvement to select blocks.</p>	<p>Does it fit? Shape, right shape, wrong shape, triangle, square, circle, rectangle</p>	<ul style="list-style-type: none"> Construction activities Tangrams: “can you make a person with the shapes?”
	<p>Linking Numerals and Amounts Link numerals and amounts: for example, showing the right number of objects to match the numeral up to 5.</p>	<p>Links numerals with amounts up to 5 and maybe beyond (cardinality).</p>	<p>One, two, three, four, five, how many, matching, the same, not that one, which one?</p>	<ul style="list-style-type: none"> Putting the right number of snacks on a tray for the number of children shown on a card
	<p>Mark Making Experiment with their own symbols and marks.</p>	<p>Explores using a range of their own marks and signs to which they ascribe mathematical meanings.</p>	<p>One, two, three, four, five, lines, dots,</p>	
	<p>Pattern Extend and create ABAB patterns e.g. stick, leaf, stick, leaf</p>	<p>Creates their own spatial patterns showing some</p>	<p>Repeating, the same again, different, one after the other,</p>	<ul style="list-style-type: none"> “can you change the red bear to a blue bear? What is the pattern now?”

	<p>Notice and correct an error in a repeating pattern</p>	<p>organization or regularity.</p> <p>Extends and creates simple linear patterns of two (AB) or three (ABC) repeating items.</p>	<p>right/wrong, in a line</p>	<ul style="list-style-type: none"> • Include lots of pattern making opportunities e.g. outdoors, in craft activities and with musical instruments • Working collaboratively to take turns to create a pattern, e.g. one claps, one stamps, or one gets the red bear, one gets the yellow bear etc. • Presenting patterns with deliberate errors • Asking the children to make a pattern with a deliberate mistake and challenging a friend to spot it
	<p>Measure Make comparisons between objects relating to length.</p>	<p>In meaningful contexts finds the longer or shorter of two items.</p>	<p>Longer/ shorter</p>	<ul style="list-style-type: none"> • Cutting a piece of ribbon as long as a child's arm and encouraging them to find things in the environment that are longer/shorter or the same length • "Please can you pass me a ... that is

				longer/shorter than this one?"
	<p>Problem solving and Composition of Numbers</p> <p>Solve real world mathematical problems with numbers up to 3.</p>	<p>Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers.</p> <p>Beginning to use understanding of number to solve practical problems in play and meaningful activities.</p> <p>Separates a group of 3 objects in different ways, beginning to recognise that the total is still the same.</p>	<p>One, two, three, one & two more, two & one more, put them together, how many? Total</p>	<ul style="list-style-type: none"> Encourage children to make arrangements with 3; ensuring talking about the different arrangements
Summer	<p>Counting</p> <p>Reciting numbers up to 10.</p> <p>Cardinal Principle – know that the last number reached when counting a small set of objects tells you how many there are in total</p>	<p>May enjoy counting verbally as far as they can go.</p> <p>Counts up to and beyond 5 items recognising that the last number said represents</p>	<p>One, two, three, four, five, six, seven, eight, nine, ten</p> <p>One after the other, total, how many?</p>	

		<p>the total counted so far.</p> <p>Begins to recognise numerals up to 10 and may show fascination with large numbers.</p>		
	<p>Subitising Develop fast recognition of up to 4/5 objects without having to count them individually</p>	<p>Subitises 1, 2, 3, 4/5 objects (without counting).</p>	<p>One, two, three, four, five, all of them</p>	<p>Children need opportunities to:</p> <ol style="list-style-type: none"> 1. See regular arrangements of small quantities, e.g. a dice face, structured manipulatives, etc., and be encouraged to say the quantity represented 2. recognise small amounts when they are not in the “regular” arrangement e.g. small handfuls of objects
	<p>Mark Making Experiment with their own symbols and marks as well as numerals.</p>	<p>Explores using a range of their own marks and signs as well as beginning to write some numerals.</p>	<p>One, two, three, four, five, six, seven, eight, nine, ten</p> <p>Lines and dots</p>	
	<p>Comparing Quantities and Numbers Compare quantities using language: ‘more than’, ‘fewer than’.</p>	<p>Compares two small groups of up to 5 objects, saying when there are the same (equal) number of objects in each group e.g. <i>you’ve</i></p>	<p>More than, fewer than, same, different</p> <p>One, two, three, four, five</p> <p>One more</p>	<p>See previous section on Comparing Quantities and Numbers</p>

		<p><i>got 5, I've got 5'. Same!</i></p> <p>Beginning to recognise that each counting number is one more than the one before.</p>		
	<p>Shape</p> <p>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'</p>	<p>Responds to both informal language and common shape names.</p> <p>Shows awareness of shape similarities and differences between objects.</p> <p>Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes.</p> <p>Predicts, moves and rotates objects to fit the space or create the shape they would like.</p>	<p>Circle, square, triangle, rectangle, sphere, cube, pyramid, cuboid, sides, corners, straight, flat, round, bigger, smaller, turn, twist, does it fit?</p>	<ul style="list-style-type: none"> • Asking questions, e.g. "what shapes can you make?" "what is the same and what is different?" • Printing with shapes
	<p>Positional Language</p>	<p>Responds to and uses language of</p>	<p>On, off, under, beside and between</p>	<p>Children need opportunities to explore this language,</p>

	<p>Understand position through words alone using a sentence</p> <p>Discuss routes and locations, using words like ‘in front of’ and ‘behind’</p> <p>Describe a familiar route</p>	<p>position and direction.</p> <p>Discuss position in real contexts. Describe routes and give directions to each other.</p>	<p>“The bag is under the table”</p> <p>In front of, behind, forwards, backwards, left, right</p> <p>Along the road, go that way, straight on, turn, on that side, on the other side, wrong, way, right way</p>	<p>taking advantage of play in the outdoors to explore sequences of body movements (following obstacle course, directing a friend, etc.):</p> <ul style="list-style-type: none"> • Directing a simple robot or remote-controlled toy vehicle along a route • Directing each other as robots • Acting out their own versions of well-known stories where characters negotiate routes and obstacles
	<p>Pattern</p> <p>Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then’ ...</p>	<p>Joins in with simple patterns in sounds, objects, games and stories, dance and movement, predicting what comes next.</p> <p>Recalls a sequence of events in everyday life and stories.</p>	<p>First, then, after, before, every day, evening, morning, afternoon, tomorrow, today, yesterday, next, next day</p>	
	<p>Measure</p> <p>Make comparisons between objects relating to weight and capacity.</p>	<p>In meaningful contexts finds the heavier or lighter and</p>	<p>Heavier/ lighter, more/less full</p>	<ul style="list-style-type: none"> • “Please can you pass me a ... that is heavier/lighter than this one?”

		more/less full of two items.		<ul style="list-style-type: none"> • Provide varied range of container shapes • See-saw problems • Use a spring balance to compare weights
	<p>Problem solving and Composition of Numbers</p> <p>Solve real world mathematical problems with numbers up to 5.</p>	<p>Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers.</p> <p>Beginning to use understanding of number to solve practical problems in play and meaningful activities.</p> <p>Separates a group of up to 5 objects in different ways, beginning to recognise that the total is still the same.</p>	One, two, three, four, five, put them together, how many? Total, same, different, fair/unfair	<ul style="list-style-type: none"> • Encourage children to make arrangements with 3; ensuring talking about the different arrangements • Exploring songs; e.g., <i>Five Currant Buns</i> – show that the whole is still 5, but some are in the shop and some have been taken away • Playing skittles and looking at how many are standing; have fallen over; how many altogether?

