

Mathematical Development – Reception Curriculum Framework

Educational Purpose

We develop confident and curious mathematicians who notice patterns and relationships, make connections, use what they know and explain their thinking. Secure understanding is built through carefully sequenced teaching, practical exploration, mathematical talk and repeated opportunities to apply learning in different contexts.

Golden Threads

Number Sense	Subitising	Composition	Pattern & Structure	Spatial Reasoning	Mathematical Thinking & Talk
Children develop a deep understanding of quantity, cardinality, comparison and relationships between numbers rather than simply learning to count.	Children progress from recognising very small quantities without counting to seeing smaller parts within a whole and using these to understand number structure.	Children understand that numbers are made of smaller numbers and become increasingly flexible in partitioning, recombining and recalling number relationships.	Children notice, continue, create and explain patterns and increasingly recognise structure within number, shape and other mathematical contexts.	Children manipulate, rotate, compose, decompose, position and compare shapes and objects, rather than simply learning shape names.	Children notice, compare, predict, reason, explain and represent mathematical thinking through objects, fingers, manipulatives, images, movement, talk and increasingly numerals.

Area	Typical Starting Points	DP1	DP2	DP3	Statutory ELG End of Reception
Number & Quantity KNOWLEDGE	- Join in with familiar number songs and rhymes. - Say some number names, although these may not yet be in a secure sequence. - Show awareness of small amounts in everyday situations. - Use or respond to everyday mathematical language such as more, big, small, full or empty. - Explore putting objects together, taking them apart, filling, emptying, building and arranging. - Notice shapes and patterns in objects and the environment. - Explore where objects are and how they fit, move and can be arranged in space. - Begin to match or group objects because they are the same or different. - Show awareness of familiar routines and sequences, such as what happens next during the day.	- I know number names have a fixed order when we count. - I know each object is counted once. - I know the last number said tells me how many there are. - I know a small quantity can sometimes be recognised without counting. - I know two groups can have the same number, or one can have more or fewer. - I know that sometimes I can subitise a set and sometimes I need to count it.	- I know the counting sequence has a fixed order. - I know the last number said when counting a group tells me how many there are altogether. - I know the quantity stays the same when objects are rearranged, as long as none are added or taken away. - I know numbers can be compared by thinking about which is more, fewer or the same. - I know a number can be represented in different ways and still have the same value. - I know a quantity can be seen as smaller parts within a whole. - I know that counting has ordinal as well as cardinal meaning: numbers tell position in a sequence as well as how many. - I know each next number in the counting sequence is 1 more, and I can begin to relate this to 1 less.	- I know the counting sequence continues in a predictable pattern. - I know each number in the counting sequence is one more than the number before. - I know a quantity remains the same when it is rearranged, unless something is added or taken away. - I know numbers and quantities can be compared by thinking about their value. - I know recognising smaller parts within a quantity can help me know how many there are altogether. - I know numbers to 10 can be compared by magnitude and by their position in the counting sequence.	NUMBER Children at the expected level of development will: - 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. NUMERICAL PATTERNS Children at the expected level of development will: - 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
Number & Quantity SKILLS		- I can join in with and increasingly use the counting sequence. - I can count a small group carefully, giving one number to each object. - I can say how many objects are in a group after counting. - I can subitise very small quantities in familiar arrangements. - I can show a small quantity I have subitised using fingers or objects. - I can represent small quantities using objects, fingers or other representations. - I can match objects one-to-one to compare two groups. - I can begin to say whether one group has more, fewer or the same. - I can begin to form taught numerals, following adult modelling of the correct formation. - I can subitise within 3 and begin to subitise objects and sounds. - I can compare sets 'just by looking' and by matching, using more than, fewer than and an equal number. - I can connect quantities to familiar finger patterns and structured arrangements.	- I can count objects accurately, increasingly within 10. - I can match numerals to quantities I can count. - I can subitise increasingly familiar quantities in different arrangements. - I can begin to say what smaller amounts I can see within a quantity. - I can represent numbers in different ways using objects, fingers, marks or structured representations. - I can compare two quantities and say which has more, fewer or the same. - I can order small quantities and explain what I notice. - I can form an increasing range of taught numerals recognisably and use them to represent quantities. - I can use the 'staircase' pattern to order numbers and connect cardinality with ordinality. - I can order numbers increasingly to 8 and use more than, fewer than, equal to and less than. - I can begin to judge magnitude, noticing when one quantity is a little or a lot more than another.	- I can verbally count beyond 20, noticing the pattern of the counting sequence. - I can count accurately from different starting points. - I can count and represent quantities, recognising that the final number tells how many there are altogether. - I can subitise quantities to 5 in varied arrangements without counting each object individually. - I can recognise smaller groups within a quantity and use these to help identify how many there are. - I can explain how I saw a quantity, e.g. 'I saw 3 and 2, so I knew there were 5.' - I can compare quantities within 10 and explain whether one is more, fewer or the same. - I can use number and quantity knowledge to solve simple practical problems. - I can form taught numerals with increasing accuracy when recording quantities and mathematical thinking. - I can count larger sets and things that cannot be seen, including actions and sounds. - I can generalise one more than and one less than for numbers within 10. - I can decide whether subitising or counting is the more efficient strategy.	
Composition KNOWLEDGE		- I know a number can be made from smaller numbers. - I know a whole group can be separated into parts and put back together. - I know the same number can be represented in different ways. - I know that numbers are made of 1s and that 5 has a useful	- I know numbers are made of smaller numbers. - I know the same whole can be made from different parts. - I know a number can be partitioned and recombined without changing the whole. - I know some number relationships can become familiar enough to remember.	- I know numbers can be composed of smaller numbers in different ways. - I know a whole remains the same when it is partitioned in different ways. - I know some number relationships can be recalled without needing to count.	

Area	Typical Starting Points	DP1	DP2	DP3	Statutory ELG End of Reception
		structure ('five-ness of 5').	- I know 6 and 7 can be structured as '5 and a bit'. - I know two equal groups form a double and that odd and even quantities have different structures.	- I know a double is made from two equal parts. - I know a quantity can be shared equally. - I know 10 can be composed in different ways and that familiar number relationships can be recognised through structured representations such as a 10-frame or rekenrek.	up to 10, including evens and odds, double facts and how quantities can be distributed equally.
Composition SKILLS		- I can explore making small numbers in different ways using objects and fingers. - I can separate a small group into parts and recombine it. - I can notice smaller quantities within a larger quantity. - I can show a small number in more than one way. - I can explore the composition of 3, 4 and 5 and use the language of whole and part.	- I can recognise and describe smaller numbers within a larger number. - I can partition numbers in different ways using objects, fingers and structured representations. - I can recombine parts and say how many there are altogether. - I can find different ways of making a number. - I can begin to recall familiar number facts within 5. - I can explain how I know a number has been made. - I can compose 6 and 7 as 5 and a bit using fingers and structured number frames. - I can make unequal sets equal and explore doubles as two equal parts. - I can sort quantities by odd/even structure.	- I can explore and represent different compositions of numbers within 10. - I can partition a number in different ways and explain the parts I can see. - I can automatically recall number bonds to 5 and some number bonds to 10. - I can recall and use familiar double facts. - I can begin to recognise odd and even quantities through their structure. - I can share and group quantities equally in practical contexts. - I can use what I know about number composition to solve simple problems. - I can subitise structured arrangements to 6 while securing automatic recall within 5. - I can use a 10-frame and rekenrek to notice parts, wholes and number relationships. - I can secure automatic recall of bonds to 5 through varied practice and explore the composition of numbers to 10.	
Pattern KNOWLEDGE		- I know a repeating pattern has a part that repeats. - I know looking carefully at a pattern can help me know what comes next.	- I know a repeating pattern follows a rule. - I know the repeating part of a pattern stays the same even when the objects, colours or movements change. - I know a mistake can break a repeating pattern.	- I know repeating patterns are organised by a rule. - I know the same pattern structure can be represented in different ways. - I know patterns can be found in number as well as in objects, sounds and movements. - I know a pattern can be copied, continued and created by attending to its repeating structure.	
Pattern SKILLS		- I can notice a simple repeating pattern. - I can copy a simple repeating pattern. - I can continue a simple repeating pattern with support. - I can begin to say what comes next in a familiar repeating pattern.	- I can continue a repeating pattern independently. - I can create a simple repeating pattern. - I can identify the part of a pattern that repeats. - I can notice and correct a mistake in a repeating pattern. - I can describe what is happening in a pattern. - I can explore patterns using objects, sounds, actions, movements and other attributes.	- I can create and continue increasingly varied repeating patterns. - I can identify the unit of repeat within a pattern. - I can spot, explain and correct an error in a repeating pattern. - I can represent the same repeating pattern in a different way. - I can explain the rule of a pattern. - I can notice and talk about patterns in number and the environment. - I can copy, continue and create patterns and explain the repeating unit.	
Shape & Spatial Reasoning KNOWLEDGE		- I know objects and shapes have features that I can notice. - I know shapes can be moved, turned and arranged. - I know where something is can be described. - I know movement and position can be described using words such as in, on, under, next to, between, in front of and behind.	- I know shapes have properties that help me describe and compare them. - I know a shape stays the same shape when it is moved or turned. - I know shapes can be combined to make other shapes, arrangements and structures. - I know position can be described in relation to something else.	- I know shapes can be described and compared using their properties. - I know a shape remains the same when it is moved, turned or viewed in a different orientation. - I know shapes can be composed and decomposed to make other shapes and structures. - I know spatial relationships can be described and represented.	
Shape & Spatial Reasoning SKILLS		- I can explore and manipulate shapes through building, fitting, arranging and making. - I can match and notice similarities and differences between shapes and objects. - I can notice and talk about features of shapes using	- I can recognise and name familiar 2D and 3D shapes encountered through teaching and play. - I can describe and compare shapes by noticing their properties. - I can recognise familiar shapes when they are presented in	- I can recognise familiar shapes in different sizes and orientations. - I can describe and compare familiar 2D and 3D shapes using what I notice about their properties. - I can select, rotate and manipulate shapes to solve spatial	

Area	Typical Starting Points	DP1	DP2	DP3	Statutory ELG End of Reception
		everyday mathematical language. • I can use and respond to simple positional language such as in, on, under and next to. • I can explore how shapes can be combined to make new arrangements or structures. • I can use gestures and movement language, including turn and flip, to show spatial relationships.	different orientations. • I can select and rotate shapes to fit a space or solve a practical problem. • I can combine shapes to make other shapes, arrangements or structures. • I can use increasingly precise positional language such as behind, next to and between. • I can describe where an object is in relation to another object. • I can match, turn and flip shapes and compose 3D constructions through block play.	problems. • I can combine and separate shapes to make new shapes, pictures, arrangements and structures. • I can give and follow simple positional or directional instructions. • I can use increasingly precise spatial language to explain where things are and how they move. • I can explain some of the choices I make when building or arranging shapes.	
Measure KNOWLEDGE		• I know objects can be compared by their size, length or weight. • I know containers can hold different amounts. • I know we can compare two things directly to find out how they are different.	• I know objects can be compared and ordered by a chosen attribute, such as length, height or weight. • I know to compare fairly, I need to think about what I am measuring. • I know the same object can be described in different ways depending on what I am comparing. • I know events happen in an order.	• I know objects can be compared and ordered according to a chosen measure. • I know a measurement needs to be made consistently if it is going to be useful. • I know different attributes of the same object can be compared separately. • I know events can be ordered and described using time language. • I know measures can be compared by attending to the relevant attribute and using spatial/prepositional language precisely.	
Measure SKILLS		• I can directly compare two objects by size or length. • I can explore and compare weight through practical experience. • I can explore and compare capacity through filling and emptying. • I can use comparative language such as big/small, long/short, heavy/light and full/empty. • I can put familiar events or experiences in a simple sequence.	• I can compare and order objects by length, height or weight. • I can compare capacity through practical filling, emptying and pouring. • I can use comparative language with increasing precision. • I can talk about familiar events using temporal language such as before, after, first and next.	• I can compare and order several objects by length, height, weight or capacity. • I can use comparative language accurately to explain what I notice. • I can make a simple estimate and then compare or measure to check. • I can solve practical problems involving size, length, weight or capacity. • I can sequence familiar events and use language such as before, after, first, next and later. • I can make connections between length, height and mass in meaningful contexts, noticing similarities and differences.	
Essential Vocabulary	more – a greater amount or number same – not different from another in – inside something under – below something full – holding as much as possible	number – tells how many there are count – say numbers in order altogether – all the parts together shape – the form of something pattern – something that follows a rule subitise – recognise how many without counting each one	fewer – a smaller number of things part – some of a whole whole – all the parts together between – in the space separating things repeat – happen again in a pattern ordinal – tells the position in an ordered sequence less than – a smaller number or quantity	equal – having the same amount double – two equal parts together odd – cannot be paired equally even – can be paired equally estimate – make a sensible first guess rekenrek – a structured bead representation for seeing number relationships magnitude – the size of a number or quantity	

Mathematics Entitlement

Every child will:

- Experience regular, carefully sequenced mathematics teaching that develops secure understanding of number, pattern, shape, space and measure.
- Develop a strong sense of number and quantity through counting, cardinality, comparison, representation and composition.
- Have frequent opportunities to subitise, progressing from recognising very small quantities towards seeing and explaining smaller parts within a whole.
- Explore how numbers are composed and decomposed using fingers, objects, structured representations and practical experiences.
- Use a range of manipulatives and representations to see, explore and explain mathematical relationships.
- Hear, use and revisit precise mathematical vocabulary, supported by consistent adult modelling.
- Have opportunities to notice, describe, compare, predict, reason and explain mathematical thinking.
- Explore shape and spatial relationships through construction, movement, fitting, rotating, composing and decomposing shapes.
- Investigate pattern and structure through objects, sounds, actions, movement, number and the environment.
- Explore measure practically through meaningful experiences of length, height, weight, capacity and sequence.
- Receive explicit teaching and modelling of numeral formation, while being able to demonstrate mathematical understanding through talk, objects, fingers, manipulatives, drawings and other representations.
- Encounter and apply mathematics throughout the learning environment and everyday routines, not only during directed mathematics teaching.
- Revisit important mathematical ideas in different contexts so that knowledge becomes increasingly secure, connected and flexible.
- Receive timely additional teaching and practice when assessment identifies a gap, while continuing to experience the full Mathematics curriculum.
- Be moved forward when mathematical understanding is secure, rather than being limited by a Development Point or the statutory end-of-Reception expectations.

Assessment and additional support

- Use assessment to identify which mathematical concept or component is insecure, rather than simply recording whether an answer was correct.
- Notice children's strategies: counting everything, counting on, subitising, using known parts, matching one-to-one or recalling a familiar relationship.
- Use the DPs to understand mathematical development; do not turn them into fixed termly tests.
- Children may demonstrate aspects of more than one DP simultaneously.
- Provide additional practice that targets the identified gap while maintaining access to the full Mathematics curriculum.
- Move children forward when understanding is secure rather than providing unnecessary repetition.
- Assess mathematical understanding through observation, interaction, practical activity and children's explanations, not written recording alone.

Transition to Key Stage 1

By the end of Reception, children have developed individual foundations in number sense, counting, cardinality, subitising, comparison, composition, pattern, shape, spatial reasoning and measure. Transition information shared with Year 1 identifies each child's secure mathematical knowledge, the representations and manipulatives that support their thinking, effective teaching approaches and appropriate next steps. Year 1 teaching should build from what children understand securely, continuing to use practical experiences, mathematical talk, visual representations and manipulatives before moving towards increasingly abstract recording. Children should have regular opportunities to explain what they notice, make connections, solve practical problems and revisit important concepts in varied contexts. Transition does not require every child to calculate or record in the same way; teaching should address gaps, deepen understanding and extend children when they are ready without replacing secure number sense with premature procedures.

Mastering Number 2026/27 – Reception Curriculum Alignment

The Development Points remain developmental rather than fixed termly tests. The Mastering Number sequence is used to sharpen the planned teaching journey across the year, while assessment continues to identify each child's secure understanding and next steps.

Teaching phase	Mastering Number emphasis	Curriculum progression link
Autumn – build foundations (Weeks 1–10)	Subitising within 3; counting, cardinality and one-to-one correspondence; numbers made of 1s; composition of 3, 4 and 5; subitising objects and sounds; comparison by looking and matching; the "five-ness of 5"; whole and part; matching, turning and flipping; numeral-quantity matching within 10; verbal counting beyond 20.	Mainly DP1, with movement into DP2 where understanding is secure.
Spring – connect and structure (Weeks 11–20)	Subitising within 5 using dot patterns; ordinality and the staircase pattern; each number as 1 more; focus on 5; block play and 3D composition; equivalence; 6 and 7 as "5 and a bit"; making unequal sets equal; ordering to 8 and less than; 2D shape classification; doubles; odd and even structure.	Mainly DP2, drawing on secure DP1 knowledge and extending into DP3 as appropriate.
Summer – generalise and secure (Weeks 21–26 + review)	Copy, continue and create patterns; count larger sets, actions and sounds; subitise to 6 in structured arrangements; composition as "5 and a bit" and composition of 10; comparison linked to ordinality; meaningful measure contexts; introduce the rekenrek; secure automatic recall of bonds to 5; review composition, comparison, number patterns and counting.	Mainly DP3 and statutory ELG preparation, without capping children who are ready to move beyond.

Assessment checkpoints

- Autumn: observe whether children subitise or count appropriately; apply one-to-one correspondence and cardinality; compare by looking/matching; and talk about parts and wholes within 5.
- Spring: look for secure connections between quantity and numeral, ordinality/cardinality, 5-based structure, equivalence, doubles, odd/even structure and ordering to 8.
- Summer: look for flexible counting strategies, conceptual subitising, one more/one less within 10, composition to 10, automatic recall of bonds to 5 and application across comparison, pattern and measure.
- Use these checkpoints diagnostically: identify the concept or component that is insecure, provide targeted practice, and maintain access to the full curriculum.