

What does Maths look like in EYFS at Bilston?

Historically, children enter our Reception class with poor numeracy skills. Many can count by rote to 10 and sometimes beyond but have little understanding of cardinality or the value of numbers. Knowledge of shape and pattern is also limited. This is shown through the NFER baseline data and baseline teacher assessments.

As we receive children from many different settings and they are often not used to sitting for main teaching, we have this year trialled using an objective led planning approach to teaching Maths in Autumn term. This has meant that children did not have a formal Maths lesson, instead the key maths objectives were taught in a 1:1 capacity linked wherever possible to what children were already engaged with within the learning environment. This allowed staff to ensure individual understanding of key concepts before moving on to the next strand. It also helped staff identify those children who were not understanding key concepts. Additional sessions and interventions were planned and delivered to support their learning.

Alongside objective led planning, Number Sense was used as a daily session to support children's basic understanding of number.

Key routines also have a strong Maths focus, e.g. counting children present/absent, days of the week, date...

By using objective led planning, children became familiar with using manipulatives, they had teaching tailored to their individual needs, the focus was on the Maths objectives rather than trying to get children, many who were not ready, all sitting quietly and focussing on the carpet and staff had a clear understanding of children's individual capabilities.

At the start of Spring Term, a daily Maths lesson is also timetabled. This is a 15 minute session during which children work with allocated 'learning partners', each pair having their own box of manipulatives. The session is made up of 4 parts: review, teach, practise, apply. Staff use resources from NCETM, White Rose and Power Maths to allow children to apply their learning.

From this session, children who lack understanding are identified and objective led planning for these children takes place in addition.

The focus in EYFS is practically working with Maths, building children's knowledge and understanding of manipulatives and building firm foundations on which to build in Year 1 and beyond. In order to prepare children for recording in Maths in Year 1, there will be a greater number of opportunities for children to record with written numerals and symbols within the environment in Summer Term.

Our EYFS Maths curriculum is based on NCETM with links to White Rose and Power Maths. Skills are mapped out over the 3 terms, progressing from children's expected entry points in September. The primary focus is on number as the Early Learning Goals for the end of Reception in Maths are number based:

- Have a deep understanding of number to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5
- 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
- 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.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

This said, our Maths curriculum is much wider than this and incorporates other areas of Maths including shape, space and measure, positional language and patterns. There are many opportunities for these areas of maths to be explored within the continuous and enhanced provision.

There is an accessible Maths area in each classroom and in the outdoor area with manipulatives available for children to explore at all times in the school day. Children are also encouraged to use other means to explore Maths e.g. Numicon or counters in playdough, painting with Maths resources or shapes...

Below is our skills and knowledge map for Maths in Reception:

MATHEMATICS				
Number				
	On Entry	Autumn	Spring	Summer
Cardinality and Counting	<p>Counting - saying number words in sequence</p> <p>Counting - tagging each object with one number word</p>	<p>Counting: knowing the last number counted gives the total so far</p> <p>Subitising: recognising small quantities without needing to count them all</p>	Numeral meanings	<p>Conservation: knowing that the number does not change if things are rearranged (as long as none have been added or taken away)</p> <p><u>Development Matters:</u> Count objects, actions and sounds. Subitise. Link the number symbol (numeral) with its cardinal number value. Count beyond ten.</p> <p><u>Early Learning Goals:</u> Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5 Verbally count beyond 20, recognising the pattern of the counting system</p>
I have a secure understanding of numbers to 10.	<p>I can recite numbers past 5.</p> <p>I can say one number for each item in order: 1,2,3,4,5.</p>	<p>I can count objects, actions and sounds.</p> <p>I can link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</p>	<p>I can link the number symbol (numeral) with its cardinal number value.</p> <p>I can count beyond ten.</p>	<p>Have a deep understanding of number to 10, including the composition of each number.</p>

	I can experiment with their own symbols and marks as well as numerals.		I understand the 'one more than/one less than' relationship between consecutive numbers.	
I can subitise to 5.	I know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). I can show 'finger numbers' up to 5.	I am developing fast recognition of up to 3 objects, without having to count them individually ('subitising').	I can subitise to 5 with greater reliability.	Subitise (recognise quantities without counting) up to 5.
I can count beyond 20.	As above	As above	I can count beyond ten. I can use apparatus to make numbers to 20, understanding the significance of the ten.	Verbally count beyond 20, recognising the pattern of the counting system.
Comparison	I can identify which group has the largest/smallest amount.	More than / less than Identifying groups with the same number of things	Comparing numbers and reasoning	Knowing the 'one more than/one less than' relationship between counting numbers <i>Development Matters:</i> Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Compare length, weight and capacity <i>Early Learning Goals:</i>

				Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
I can compare quantities.	I can identify which group has most/more and least/less.	I can make simple comparisons between objects relating to size, length, weight and capacity I can compare quantities using language: 'more than', 'fewer than'.	I can compare numbers. (smallest/largest/smaller/larger/more/less) I can compare length, weight and capacity.	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
Composition	I can put two groups of objects together and count them to find the total amount.	Part-whole: identifying smaller numbers within a number (conceptual subitising – seeing groups and combining to a total) Inverse operations	A number can be partitioned into different pairs of numbers A number can be partitioned into more than two numbers	Number bonds: knowing which pairs make a given number <u>Development Matters:</u> Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0-5 and some to 10. <u>Early Learning Goals:</u> 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. Explore and represent patterns within numbers up to 10, including

				evens and odds, double facts and how quantities can be distributed equally
I can recall number facts to 5.	I can solve simple real world mathematical problems with numbers up to 5 with apparatus and support.	I can solve real world mathematical problems with numbers up to 5. I can explore the composition of numbers to 5.	I can explore the composition of numbers to 10. I can recall some number bonds to 5. I am beginning to identify doubles to 10.	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.
Measures	Recognising attributes	Comparing amounts of continuous quantities Showing awareness of comparison in estimating and predicting Comparing indirectly	Recognising the relationship between the size and number of units Beginning to use time to sequence events	Beginning to use units to compare things Beginning to experience specific time durations
Pattern	Continuing an AB pattern Copying an AB pattern	Make their own AB pattern Spotting an error in an AB pattern Identifying the unit of repeat	Continuing an ABC pattern Continuing a pattern which ends mid-unit Make their own ABB, ABBC patterns Spotting an error in an ABB pattern	Symbolising the unit structure Generalising structures to another context or mode Making a pattern which repeats around a circle Making a pattern around a border with a fixed number of spaces <u>Development Matters:</u> Continue, copy and create repeating patterns

				<p><u>Early Learning Goals:</u> Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally</p>
<p>I can identify patterns in numbers.</p> <p>I can continue repeating patterns.</p>	<p>I can talk about and identify the patterns around me. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc.</p>	<p>I can extend and create ABAB patterns – stick, leaf, stick, leaf.</p> <p>I can notice and correct an error in a repeating pattern.</p> <p>I can begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</p>	<p>I can continue, copy and create repeating patterns with 2 or more objects.</p>	<p>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</p>
<p>Shape and Space</p>	<p>Developing spatial awareness: experiencing different viewpoints</p>	<p>Developing spatial vocabulary</p> <p>Shape awareness: developing shape awareness through construction</p>	<p>Representing spatial relationships</p> <p>Identifying similarities between shapes</p> <p>Showing awareness of properties of shape</p>	<p>Describing properties of shape</p> <p>Developing an awareness of relationships between shapes</p> <p><u>Development Matters:</u> 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.</p>

<p>I can talk about and explore 2D and 3D shapes.</p>	<p>I can name some familiar shapes.</p> <p>I am beginning to select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.</p>	<p>I can 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>I can identify some 2D and 3D shapes in the environment around me.</p>	<p>I can select, rotate and manipulate shapes to develop spatial reasoning skills.</p> <p>I can compose and decompose shapes so that children can recognise a shape within it, just as numbers can.</p> <p>I can use 2D shapes to make a picture.</p> <p>I can use 3D shapes to make a structure, showing an understanding of basic properties (stack, roll...)</p>	<p>I can name and describe some familiar 2D and 3D shapes.</p> <p>I can select, rotate and manipulate shapes to develop spatial reasoning skills.</p> <p>I can compose and decompose shapes so that children recognise a shape within it, just as numbers can.</p>
<p>I can use positional language</p>	<p>I can understand position through words alone – for example, "The bag is under the table," – with no pointing.</p>	<p>I can describe the position of something ('Where is the teddy?' 'On top of the table.')</p>	<p>I can use positional language to describe a familiar route.</p> <p>I can discuss routes and locations, using words like 'in front of' and 'behind'.</p>	<p>I can understand and use positional language.</p>