

## Number Work in EYFS – Megan Millane (EYFS Leader)

### **Numeracy Teaching and Curriculum.**

At De Bohun Primary School we use the Development Matters Early Years Curriculum as a basis for teaching numeracy to our children within the Early Years settings (Pre-school, Nursery and Reception) ensuring that during the year we teach all the numeracy elements of the curriculum as well as assessing our children's learning and development.

Development Matters Curriculum is broken down in to 'age related bands' and each age-related band has a given number of statements which each child needs to be taught and is then expected to achieve and demonstrate though play, number recording and mathematical language securely during the school year.



For our children to achieve these statements and to make outstanding progress we need to provide lots of independent opportunities for the children to use their new and growing number skills.





Opportunities are provided for this though everyday play and mark making to ensure that they are transferring their knowledge practical experiences.

We ensure that we have secure evidence of the children implementing their learning linking into the Development Matters statements into their everyday playing and learning throughout the school year demonstrating that our children are making good progress whilst each child's numeracy language, using numbers in practical situations and recording outcomes are also evident.



# Development Matters Statements;



Playing and Exploring, Active Learning, and Creating and Thinking Critically support children's learning across all areas

Mathematics: Numbers			
	A Unique Child: observing what a child is learning	Positive Relationships: what adults could do	Enabling Environments: what adults could provide
 Birth - 11 months	<ul style="list-style-type: none"> <li>Notifies changes in number of objects/images or sounds in group of up to 3.</li> </ul>	<ul style="list-style-type: none"> <li>Sing number rhymes as you dress or change babies, e.g. 'One, Two, Buckle My Shoe'.</li> <li>Move with babies to the rhythm patterns in familiar songs and rhymes.</li> <li>Encourage babies to join in tapping and clapping along to simple rhythms.</li> </ul>	<ul style="list-style-type: none"> <li>Display favourite things so that a young baby can see them.</li> <li>Provide a small group of the same objects in treasure baskets, as well as single items, e.g. two fir cones or three shells.</li> <li>Create a mobile, occasionally changing the number of items you hang on it.</li> <li>Collect number rhymes which are repetitive and are related to children's actions and experiences, for example, 'Peter Hammers with One Hammer'.</li> <li>Use song and rhymes during personal routines, e.g. 'Two Little Eyes to Look Around', pointing to their eyes, one by one.</li> <li>Collect number and counting rhymes from a range of cultures and in other languages. This will benefit all children and will give additional support for children learning English as an additional language.</li> </ul>
 8-20 months	<ul style="list-style-type: none"> <li>Develops an awareness of number names through their enjoyment of action rhymes and songs that relate to their experience of numbers.</li> <li>Has some understanding that things exist, even when out of sight.</li> </ul>		
 16-26 months	<ul style="list-style-type: none"> <li>Knows that things exist, even when out of sight.</li> <li>Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles.</li> <li>Says some counting words randomly.</li> </ul>	<ul style="list-style-type: none"> <li>Use number words in meaningful contexts, e.g. 'Here is your other mitten. Now we have two'.</li> <li>Talk to young children about 'lots' and 'few' as they play.</li> <li>Talk about young children's choices and, where appropriate, demonstrate how counting helps us to find out how many.</li> <li>Talk about the maths in everyday situations, e.g. doing up a coat, one hole for each button.</li> <li>Tell parents about all the ways children learn about numbers in your setting. Have interpreter support or translated materials to support children and families learning English as an additional language.</li> </ul>	<ul style="list-style-type: none"> <li>Provide varied opportunities to explore 'lots' and 'few' in play.</li> <li>Equip the role-play area with things that can be sorted in different ways.</li> <li>Provide collections of objects that can be sorted and matched in various ways.</li> <li>Provide resources that support children in making one-to-one correspondences, e.g. giving each dolly a cup.</li> </ul>
 22-36 months	<ul style="list-style-type: none"> <li>Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.</li> <li>Recites some number names in sequence.</li> <li>Creates and experiments with symbols and marks representing ideas of number.</li> <li>Begins to make comparisons between quantities.</li> <li>Uses some language of quantities, such as 'more' and 'a lot'.</li> <li>Knows that a group of things changes in quantity when something is added or taken away.</li> </ul>	<ul style="list-style-type: none"> <li>Encourage parents of children learning English as an additional language to talk in their home language about quantities and numbers.</li> <li>Sing counting songs and rhymes which help to develop children's understanding of number, such as 'Two Little Dickie Birds'.</li> <li>Play games which relate to number order, addition and subtraction, such as hopscotch and skittles and target games.</li> </ul>	<ul style="list-style-type: none"> <li>Make a display with the children about their favourite things. Talk about how many like apples, or which of them watches a particular TV programme at home.</li> <li>Provide props for children to act out counting songs and rhymes.</li> <li>Provide games and equipment that offer opportunities for counting, such as skittles.</li> <li>Plan to incorporate a mathematical component in areas such as the sand, water or other play areas.</li> </ul>

Children develop at their own rates, and in their own ways. The development statements and their order should not be taken as necessary steps for individual children. They should not be used as checklists. The age/stage bands overlap because these are not fixed age boundaries but suggest a typical range of development. 32

Mathematics: Numbers

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Mathematics: Numbers			
	A Unique Child: observing what a child is learning	Positive Relationships: what adults could do	Enabling Environments: what adults could provide
 30-50 months	<ul style="list-style-type: none"> <li>Uses some number names and number language spontaneously.</li> <li>Uses some number names accurately in play.</li> <li>Recites numbers in order to 10.</li> <li>Knows that numbers identify how many objects are in a set.</li> <li>Beginning to represent numbers using fingers, marks on paper or pictures.</li> <li>Sometimes matches numeral and quantity correctly.</li> <li>Shows curiosity about numbers by offering comments or asking questions.</li> <li>Compares two groups of objects, saying when they have the same number.</li> <li>Shows an interest in number problems.</li> <li>Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.</li> <li>Shows an interest in numerals in the environment.</li> <li>Shows an interest in representing numbers.</li> <li>Realises not only objects, but anything can be counted, including steps, claps or jumps.</li> </ul>	<ul style="list-style-type: none"> <li>Use number language, e.g. 'one', 'two', 'three', 'lots', 'fewer', 'hundreds', 'how many?' and 'count' in a variety of situations.</li> <li>Support children's developing understanding of abstraction by counting things that are not objects, such as hops, jumps, clicks or claps.</li> <li>Model counting of objects in a random layout, showing the result is always the same as long as each object is only counted once.</li> <li>Model and encourage use of mathematical language e.g. asking questions such as 'How many saucepans will fit on the shelf?'</li> <li>Help children to understand that one thing can be shared by number of pieces, e.g. a pizza.</li> <li>As you read number stories or rhymes, ask e.g. 'When one more frog jumps in, how many will there be in the pond altogether?'</li> <li>Use pictures and objects to illustrate counting songs, rhymes and number stories.</li> <li>Encourage children to use mark-making to support their thinking about numbers and simple problems.</li> <li>Talk with children about the strategies they are using, e.g. to work out a solution to a simple problem by using fingers or counting aloud.</li> </ul>	<ul style="list-style-type: none"> <li>Give children a reason to count, e.g. by asking them to select enough wrist bands for three friends to play with the puppets.</li> <li>Enable children to note the 'missing set', e.g. 'There are none left' when sharing things out.</li> <li>Provide number labels for children to use, e.g. by putting a number label on each bike and a corresponding number on each parking space.</li> <li>Include counting money and change in role-play games.</li> <li>Create opportunities for children to separate objects into unequal groups as well as equal groups.</li> <li>Provide story props that children can use in their play, e.g. varieties of fruit and several baskets like Handa's in the story <i>Handa's Surprise</i> by Eileen Browne.</li> </ul>
 40-60+ months	<ul style="list-style-type: none"> <li>Recognise some numerals of personal significance.</li> <li>Recognises numerals 1 to 5.</li> <li>Counts up to three or four objects by saying one number name for each item.</li> <li>Counts actions or objects which cannot be moved.</li> <li>Counts objects to 10, and beginning to count beyond 10.</li> <li>Counts out up to six objects from a larger group.</li> </ul>	<ul style="list-style-type: none"> <li>Encourage estimation, e.g. estimate how many sandwiches to make for the picnic.</li> <li>Encourage use of mathematical language, e.g. number names to ten: 'Have you got enough to give me three?'</li> <li>Ensure that children are involved in making displays, e.g. making their own pictograms of lunch choices. Develop this as a 3D representation using bricks and discuss the most popular choices.</li> <li>Add numerals to all areas of learning and development, e.g. to a display of a favourite story, such as 'The Three Billy Goats Gruff'.</li> </ul>	<ul style="list-style-type: none"> <li>Provide collections of interesting things for children to sort, order, count and label in their play.</li> <li>Display numerals in purposeful contexts, e.g. a sign showing how many children can play on a number track.</li> <li>Use tactile numeral cards made from sandpaper, velvet or string.</li> <li>Create opportunities for children to experiment with a number of objects, the written numeral and the written number word. Develop this through matching activities with a range of numbers, numerals and a selection of objects.</li> </ul>

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Mathematics: Numbers



## Formal and informal implementation opportunities of numeracy teaching.



Numeracy in the Early Years is taught through whole class adult led teaching during carpet sessions. The children also learn about numbers through a wide number of activities including; singing number songs, adults modelling number digits, representation of numbers using our fingers, matching objects to a number so the children know that also movements represent numbers too, playing Interactive Whiteboard Games, small group number games, number hunt walks and using numbers which are in our environment (telephones, clocks, numbers on toys and everyday resources and playground markings...)

The input of teaching numeracy across the Early Years is age-related and this teaching develops and extends the children's learning as they progress through the Early Years. This allows children to apply their knowledge through mark making, number games and recording numbers in a wide range of opportunities. Where possible our practitioners always look to challenge our children, and reinforce their maths knowledge building on their mathematical skills and mathematical language. When we plan we always differentiate the planning, so we have independent activities and teacher led input planned for all ability children supporting the children at all abilities including SEN children and Gifted and Talented children.

We plan for our children on a weekly basis and this planning is based on the numeracy knowledge the children already have and then focuses on the next steps of their numeracy development.

Teachers annotate the planning and evaluate the teaching and learning ensuring that any gaps in the teaching and learning are revisited to narrow any gaps in ensuring the children are secure in numeracy.

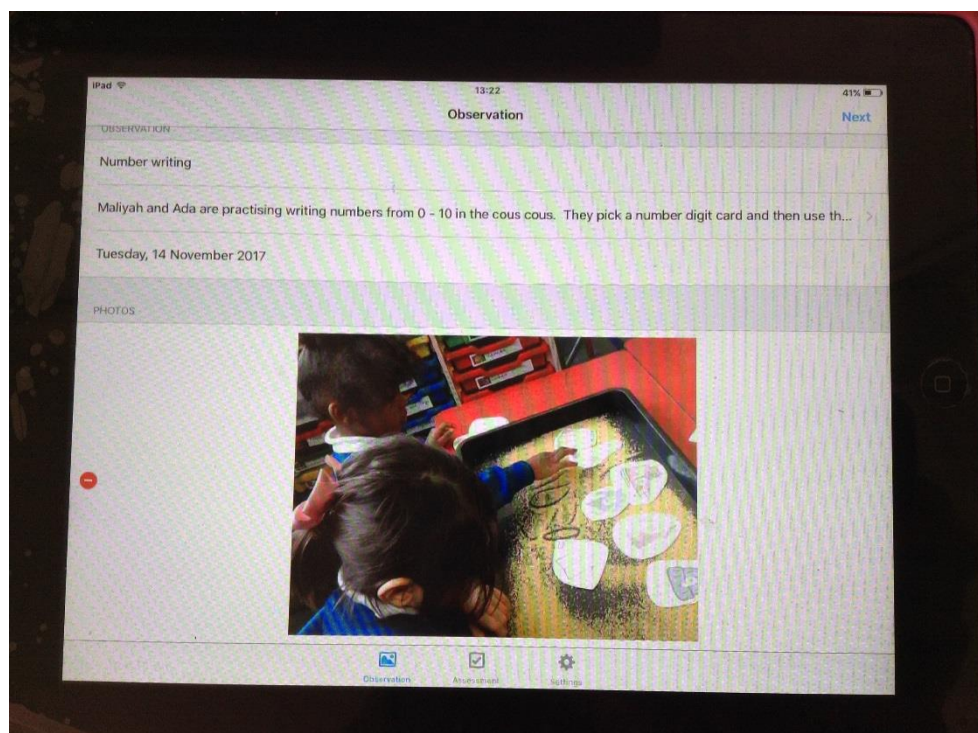
If you walk around the Early Years in De Bohun School you will see that the children are exposed to numbers around the environment, learning about numbers through play; maths games, puzzles, playdough number mats, number digits being displayed around the environment both indoors and outdoors ensuring the children are learning in a number rich environment which teaches them that numbers are all around us in the world.



### **Numeracy Observations.**

Our Early Years team currently use an on-line observation tracking system called Target Tracker Link. Each child has a profile on Target Tracker which allows practitioners to take photos of the children doing numeracy games, activities, number work and then these observations are annotated and given an area of learning linking to a Development Matters Statement and an age-related banding. Parents can access their child's profile on-line at home, so they can also see the learning that their child has been doing at school building on our home / school link and partnership.

An observation on Target Tracker Link;

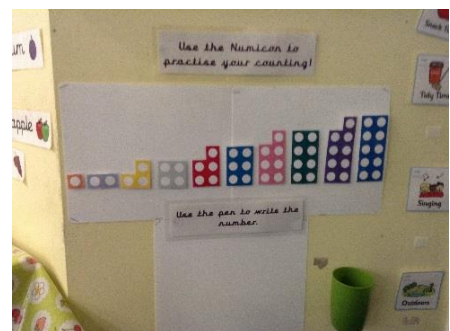


## Investing in our future of numeracy teaching.

In our school we are always looking to implement resources that will have a positive and influential impact on our children's learning and teaching resources. During the past few months we have invested a lot of money into a maths resource called Numicon. Our maths leader has recognised that we need to implement Numicon in the Early Years as a valuable resource to support our teaching of numbers, so it will follow through the school from the Early Years up to Key Stage 2.

Numicon is based on a proven concrete-pictorial-abstract approach. Numicon encourages children to explore maths using structured imagery and apparatus in order to understand and explain mathematical concepts:

- Gives children confidence through demonstrating how and why they arrived at their answer
- Easily assess understanding by watching and listening to what children do and say
- Flexibility to use alongside existing resources, or as a complete maths programme



## How do we differentiate numeracy work and recording between Pre-school, Nursery and Reception?

The main differences between the teaching of numbers in the Early Year's is that in the Reception the children have numeracy books which are used to record formal teaching of numeracy. The children write recorded numeracy work into the books on a weekly basis working with the teacher 1:1. The recording of number work has increased significantly since our last Ofsted Inspection to ensure that we have addressed the issue which Ofsted highlighted about

mathematics in the Early Years which was; 'In mathematics, adults provide fewer opportunities for children to record their number work'.

Reception children are also assessed every half term and teachers track their progress using both Development Matters and 'Number Passports' which are then passed up to Year 1 at the start of the new school year.

Across the Early Years group teachers also assess the children against the Development Matters Statements to track individual and whole class progress. This data is then used to implement any necessary intervention groups or to target and support individual children ensuring all children are provided with opportunities for good and progressing outcomes.



### **Moderation internally and with other schools in the Borough.**

The Early Years team moderate our children's progress within the team showing examples of children at various age-related bands to ensure that the teachers are making fair and secure judgments based on numeracy evidence in the numeracy books, Target Tracker Link observations and Early Years Practitioner knowledge.

Within our Early Years, the Reception and Nursery teachers also moderate termly with other schools within the Borough to ensure that our judgments are fair externally.



## **How we are addressing the school priority number five from the School Development Plan.**

The school development plan priority number five is to; 'ensure that children are given opportunities to record their work'. In the Early Years we have had a major focus on ensuring that all children are provided with opportunities on a daily basis to record any number work.

- Number recording may be using chalks on the ground; number mark making on wipe boards, exploring numbers through Numicon; number puzzles; number games...
- Providing a number rich environment where numbers are displayed so the children are exposed to numbers being all around us.
- Children across the Early Years are taught number songs through singing and using the interactive whiteboard and are encouraged to show number using their fingers and number digits cards and number fans.
- Children in Reception are taught the date by modelling of Numicon and number digits.
- Reception children participate in number recorded activity into their numeracy books on a weekly basis.
- Staff have had training on Numicon and how to use the resources effectively.
- SMT monitoring of the input and quality of numeracy and coaching staff on successes and next steps for development.
- Number writing and mark making is recorded on Target Tracker Link.