Mastery of mathematics in the Early Years will mostly be evident when the pupils initiate their mathematics successfully. They will use their maths consistently and without overt adult support when they are secure with a concept. (Early Years Handbook, December 2015)

Direct teaching could be with whole class or smaller groups and will be adult led and successful learning should be observed and assessed independent of this. Many of these units link with each other and with other Early Learning Goals such as **Listening, Attention and Understanding** and **Speaking.**

The mastery approach to mathematics also embraces the Characteristics of Effective Learning as stated in Development Matters document.

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| Characteristics of Effective Learning (Development Matters) | Principles of Mastery (NCETM 2015) |
| Playing and Exploring – Engagement  • Finding out and exploring  • Playing with what they know  • Being willing to ‘have a go’ | The reasoning behind the mathematical processes is emphasised. Teacher/pupil interaction explores in detail how answers were obtained, what the method/strategy worked and what might the most efficient method/strategy. Teaching is underpinned by a belief of the importance of maths and that the vast majority of children can succeed in the learning of mathematics in line with national expectations for the end of key stage. |
| Active learning – Motivation  • Being involved and concentrating  • Keeping trying  • Enjoying achieving what they set out to do | Lessons are short but intense.  Teacher led discussion is interspersed with short tasks and/or pupil to pupil or pupil to teacher discussion. |
| Creating and Thinking Critically – Thinking  • Having their own ideas  • Making links  • Choosing ways to do things | Learning is broken down into small, connected steps building on what the pupils already know.  There is regular interchange between concrete/contextual ideas and their abstract or symbolic representation. |
| Children should apply their mathematics into a variety of contexts and play situations to make connections. Pupils should use an appropriate and relevant vocabulary and should be actively encouraged to discuss their maths and reason mathematically. Children should use well-chosen concrete, pictorial and iconic representations.  They should recognise and be encouraged to use abstract symbols alongside less formal jottings and recordings. | |
| Mastery Indicators (Early Learning Goals)  **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 up to 10, including evens and odds, double facts and how quantities can be distributed equally. | |

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| **STATUTORY EDUCATIONAL PROGRAMME:**  Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice and not be afraid to make mistakes. | | | | | | | | | |
|  | Autumn One | Autumn Two | | Spring One | Spring Two | | Summer One | | Summer Two |
| *Possible themes, interests and lines of enquiry* | **All About me!**  Starting school/my new class/New beginnings/ New surroundings  My family/PSED focus  What am I good at?  How do I make others feel? | **Celebrations!**  Autumn  Bonfire Night  Diwali  Christmas & Christmas Around the world. | | **Cold Places**  Toys  Winter  Arctic/Antarctica  Polar animals | **Amazing Animals!**  Spring  Animals – baby animals  Growing up – changes  Life cycle –butterfly  Easter | | **Come Outside!**  Spring  Planting  Minibeasts  Our beautiful world –  Recycling and looking after our world | | **Fun at the Seaside!**  Summer  Seaside  Ocean animals – looking  Holiday  Lighthouses/RLNI |
| *Celebrations and Experiences* | Harvest Festival  Autumn Trail  Halloween  Lincolnshire Day (1st Oct) | Guy Fawkes/Bonfire Night  Remembrance  Hanukkah  Children in Need  Diwali  Advent/Christmas/Nativity  Panto | | Chinese New Year  Winter trail  Valentine’s Day  Internet safety Day | Pancake Day  Mother’s Day  Easter | | Spring trail  St George’s Day | | Father’s Day    Summer trail  Seaside trip/Seaside Day    World Ocean Day |
| *Ongoing Mathematical Skill Development throughout the year* | Link the number symbol with its cardinal number value  Count beyond ten.  Compare numbers  Understand the ‘one more/one less than’ relationship between consecutive numbers  Use language related to time; day, month, season, today, yesterday, tomorrow, morning and afternoon  Use money in role play scenarios | | | | | | | | |
| *Coverage* | Matching. Sorting &  Comparing - collections  Comparing amounts  Comparing size, mass &  Capacity  Exploring simple patterns. | | Pupils further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison.  Pupils will:   * identify when a set can be subitised and when counting is needed * subitise different arrangements, both unstructured and structured, including using the Hungarian number frame * make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills * Spot smaller numbers ‘hiding’ inside larger numbers * connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers * hear and join in with the counting sequence, and connect this to the ‘staircase’ pattern of counting numbers, seeing that each number is made of one more than the previous number * develop counting skills and knowledge, including: that the last number in the count tells us ‘how many’; to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds * compare sets of objects by matching * begin to develop the langue of ‘whole’ when talking about objects which has ‘parts’   -Describe an AB, ABB and ABBC pattern  -Continue an AB, ABB and ABBC pattern  -Create their own AB pattern  -Fix a given pattern  -Recognise, Name and describe; circle, semi circle, triangle, square and rectangle, using the terms ‘sides’ and ‘corners’  -Understand what happens when you combine shapes or cut them in two. | | | Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals.  Pupils will:   * continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals * begin to identify missing parts for numbers within 5 * explore the structure of the numbers 6 and 7 as ‘5 and a bit’ and connect this to finger patterns and the Hungarian number frame * focus on equal and unequal groups when comparing numbers * understand that two equal groups can be called a ‘double’ and connect this to finger patterns * sort odd and even numbers according to their ‘shape’ * continue to develop their understanding of the counting sequence and link cardinality and ordinality through the ‘staircase’ pattern * order numbers and play track games * join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers   -Use the terms in, on, under, behind, in front, next to to describe the position of an object.  - Compare, order and describe mass using words such as light(er/est) and heavy(er/est) | | Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice.  Pupils will:   * continue to develop their counting skills, counting larger sets as well as counting actions and sounds * explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame * compare quantities and numbers, including sets of objects which have different attributes * continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 * begin to generalise about ‘one more than’ and ‘one less than’ numbers within 10 * continue to identify when sets can be subitised and when counting is necessary * develop conceptual subitising skills including when using a rekenrek   -Compare, order and describe different lengths using words such as long(er/est) and short(er/est)  -Compare, order and describe capacity using words such a full, empty and half full | |