

Mastering Number

Reception, Year 1 and Year 2

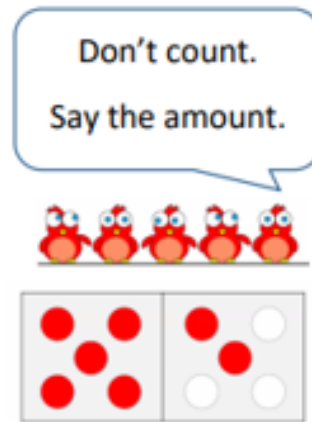


SHARLSTON

COMMUNITY SCHOOL

Over time, through our Mastering Number sessions, our pupils will:

- Develop fluency in calculation and a flexibility with number that exemplifies good number sense.
- Ensure that our pupils learn maths facts to automaticity
- Be able to clearly communicate their mathematical ideas.
- Make good progress towards the Early Learning Goals and Year Group Expectations
- Demonstrate a willingness to 'have a go'



Principles underpinning Mastering Number at our school.

- Developing fluency makes more pupils better able to access the maths in the main lesson. We do this by making connections between Mastering Number sessions and our main maths lessons in Y1-Y2 that are derived from the NCETM prioritisation materials. Both are linked to the Ready-to-Progress Criteria.
- Developing our children's mindset to look for mathematical relationships will aid development and support connections. We do this by drawing pupils' attention to the relationships so that they can connect with prior learning.
- Building confidence will enable more pupils to make progress. We do this by focussing on enabling all pupils to really understand the small steps in learning.

Our Mastering Number sessions include:

- A daily session of 10 to 15 minutes every day in addition to their daily maths lesson 4 times a week to pupils in Y1 and Y2
- We draw pupils' attention to the right part. This enables us to draw attention and focus on the key learning step for the session.
- We scaffold understanding by using different manipulatives to expose the same structures. This enables pupils to develop a more secure understanding of core mathematical structures.
- Conceptual variation - transfer the same mathematics when our pupils transfer their learning in a well thought out different context they become confident and make connections in learning.
- Linking the action and the thought – manipulatives secure understanding but are then visualised.



Features of our Mastering Number sessions:

Our Mastering Number sessions...

- are inclusive with all children securing the same learning point in an interactive and engaging manner.
- enable all children to develop number sense and secure core knowledge. This is similar to supporting pupils with phonics knowledge!
- are about accessible learning which enables all children to have a firm understanding

For all of our pupils to develop depth in understanding we want all of our children to:

- become mathematically observant
- look for relationships
- explain their thinking

What you will see in our Mastering Number sessions:

- Activities which are accessible and enable all children to become more confident and competent.
- They are being supported to acquire key facts and skills they can use more efficiently and transfer to their Maths lessons.
- The use of language structures (stem sentences) to express mathematical ideas.

Mastering Number

Reception Overview

Term 1	Term 2	Term 3
<p>Pupils will build on previous experiences of number from their home and nursery environments, and 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.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • 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 	<p>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.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • 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 	<p>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.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • 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

<p>what they can see, to develop their conceptual subitising skills</p> <ul style="list-style-type: none"> • 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 the 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' (cardinality); 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 	<p>this to finger patterns and the Hungarian number frame</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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
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<ul style="list-style-type: none"> begin to develop the language of 'whole' when talking about objects which have parts 		
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Mastering Number

Year 1 Overview

Term 1	Term 2	Term 3
<p>Pupils will have an opportunity to consolidate the Early Learning Goals and continue to explore the composition of numbers within 10, and the position of these numbers in the linear number system.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> subitise within 5, including when using a rekenrek, and re-cap the composition of 5 develop their understanding of the numbers 6 to 9 using the '5 and a bit' structure 	<p>Pupils will continue to explore the composition of numbers within 10 and explore addition and subtraction structures and the related language (without the use of symbols).</p> <p>Pupils will:</p> <ul style="list-style-type: none"> explore the composition of each of the numbers 7 and 9 explore the composition of odd and even numbers, seeing that even numbers can be made of two odd or two even parts, and that odd numbers can be composed of one odd part and one even part 	<p>Pupils will explore the composition of numbers within 20 and their position in the linear number system. They will connect addition and subtraction expressions and equations to 'number stories'.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> explore the composition of the numbers 11 to 19 as '10 and a bit' and compare numbers within 20 connect the composition of the numbers 11 to 19 to their position in the linear number system, including identifying the midpoints of 5, 10 and 15

<ul style="list-style-type: none"> • compare numbers within 10 and use precise mathematical language when doing so • re-cap the order of numbers within 10 and connect this to '1 more' and '1 less' than a given number • explore the structure of even numbers (including that even numbers can be composed by doubling any number, and can be composed of 2s) • explore the structure of the odd numbers as being composed of 2s and 1 more • explore the composition of each of the numbers 6, 8, and 10 • explore number tracks and number lines and identify the differences between them 	<ul style="list-style-type: none"> • identify the number that is two more or two less than a given odd or even number, identifying that two more/less than an odd number is the next/previous odd number, and two more/less than an even number is the next/previous even number • explore the aggregation and partitioning structures of addition and subtraction through systematically partitioning and re-combining numbers within 10 and connecting this to the part-part-whole diagram, including using the language of parts and wholes • explore the augmentation and reduction structures of addition and reduction using number stories, including introducing the 'first, then, now' language structure 	<ul style="list-style-type: none"> • compare numbers within 20 • understand how addition and subtraction equations can represent previously explored structures of addition and subtraction (aggregation/ partitioning/ augmentation/ reduction) • practise retrieving previously taught facts and reason about these
<p>This term will build and consolidate the Early Learning Goals and support the teaching and consolidation of the following RtP criteria:</p> <ul style="list-style-type: none"> • 1AS-1 • 1NF-1 	<p>This term will particularly support the teaching and consolidation of the following RtP criteria:</p> <ul style="list-style-type: none"> • 1AS-1 • 1NF-1 	<p>This term will particularly support the teaching and consolidation of the following RtP criteria:</p> <ul style="list-style-type: none"> • 1AS-2 • 1NF-1

- 1NPV-2

- 1NPV-2

Mastering Number

Year 2 Overview

Term 1	Term 2	Term 3
<p>Pupils will have an opportunity to consolidate their understanding and recall of number bonds within 10; they will re-cap the composition of the numbers 11 to 20 and reason about their position within the linear number system.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • review the composition of the numbers 6 to 9 as '5 and a bit' • compare numbers using the language of comparison and use the symbols $<$ $>$ $=$ • review the structure of even numbers (including exploring how even numbers can be composed of two 	<p>Pupils will have an opportunity to use their knowledge of the composition of numbers within 10 to calculate within 20; they will explore the links between the numbers in the linear number system within 10 to numbers within 100, focusing on multiples of 10 and the midpoint of 50.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • explore how the numbers 6 to 9 can be doubled using the '5 and a bit' and '10 and a bit' structure • use doubles to calculate near doubles • use bonds of 10 to reason about bonds of 20, in which the given addend is greater than 10 	<p>Pupils will have further opportunities to use their knowledge of the composition of numbers within 10 to calculate within 20 and to reason about equations and inequalities.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • continue to explore a range of strategies to subtract across the 10-boundary • review bonds of 20 in which the given addend is greater than 10, and reason about bonds of 20, in which the given addend is less than 10 • practise previously explored strategies to support their reasoning about inequalities and equations

<p>odd parts or two even parts) and the composition of each of 6, 8 and 10</p> <ul style="list-style-type: none"> • review the structure of odd numbers (including exploring how odd numbers can be composed of one odd part and one even part) and the composition of each of 7 and 9 • consolidate their understanding of the numbers 10 and 20 as '10 and a bit' • consolidate their understanding of the linear number system to 20 and reason about midpoints 	<ul style="list-style-type: none"> • use known number bonds within 10 to calculate within 20, working within the 10-boundary • use their knowledge of bonds of 10 to find three addends that sum to 10 • use their knowledge of the composition of numbers within 20 to add and subtract across the 10-boundary • use their understanding of the linear number system to 10 to position multiples of 10 on a 0 - 100 number line and reason about midpoints 	<ul style="list-style-type: none"> • review doubles and near doubles and transform additions in which two addends are adjacent odd/ even numbers into doubles • consolidate previously taught facts and strategies through continued, varied practice
<p>This term will particularly support the teaching and consolidation of the following RtP criteria:</p> <ul style="list-style-type: none"> • 1NPV-2 • 2NF-1 	<p>This term will particularly support the teaching and consolidation of the following RtP criteria:</p> <ul style="list-style-type: none"> • 2NPV-2 • 2NF-1 • 2AS-1 	<p>This term will particularly support the teaching and consolidation of the following RtP criteria:</p> <ul style="list-style-type: none"> • 2NF-1 • 2AS-1 • 2AS-2