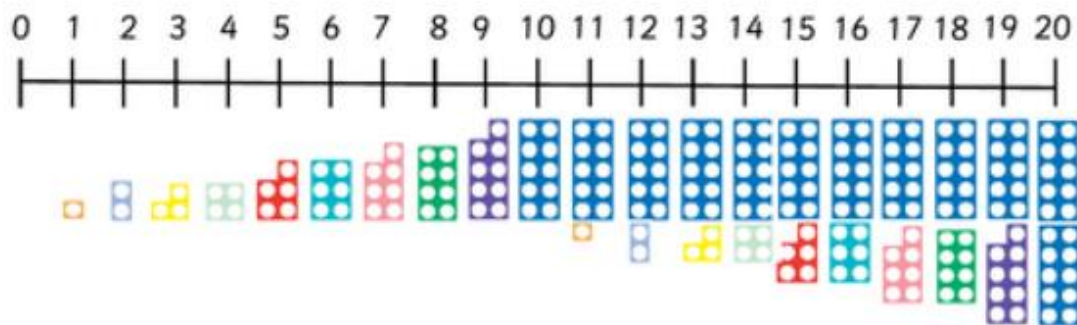


# Reception

## Mathematics

### Parent Handout



# What is Teaching for Mastery?

## Our Definition



At Hunslet Moor Primary School we see Teaching Mastery in maths as allowing the pupils to gain a deep understanding of maths, allowing them to acquire a secure and long-term understanding of maths that allows them to make continual progress to move onto more complex topics.

## Our Ethos



We believe that everyone can do maths and there's no such thing as a maths person. Maths is a subject that everyone can and should be able to perform confidently and competently.

## Teaching for Mastery



We choose to teach by breaking down maths objectives into the smallest steps, so that every pupil is secure in every new concept before moving on. We focus upon teaching for fluency, reasoning and problem solving.

## EYFS Curriculum Objectives

### ELG Number

**Children at the expected levels of development will:**


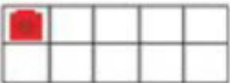

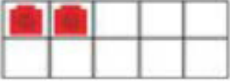

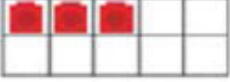


- Have a deep understanding of number to 10, including the composition of each number
- Subitise (recognise quantities without counting) up to 5
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

### ELG Numerical Patterns

**Children at the expected levels of development will:**

- Explore and represent patterns within numbers up to 10, including evens and odds, double
- 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; facts and how quantities can be distributed equally.

### Concrete, Pictorial, Abstract methods of teaching

Concrete	Pictorial	Abstract
		1
		2
		3
		4

**Concrete** is the 'doing' stage, using concrete objects to solve problems.

**Pictorial** is the 'seeing' stage, using representations of the objects involved in maths problems.

**Abstract** is the 'symbolic' stage, where children are able to use abstract symbols to model and solve maths problems.

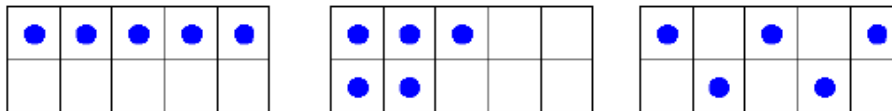
## Recognising amounts

Another skill that is very important is recognising small amounts without the need to count them. Initially this should be by using concrete objects such as those shown above but as children progress, allowing them to see groups of dots in different arrangements helps them to mentally 'see' how many objects are there without needing to count. This is a very important skill when children begin to add and subtract. Using dice is a good way to practise this skill before moving onto objects in different arrangements.



## Understanding that the total stays the same even when the objects move

When children first start to use numbers, they often do not understand that if we move objects into another arrangement the total stays the same. We practise this with many different types of objects but a useful tool is using a tens frame to be able to move counters around.



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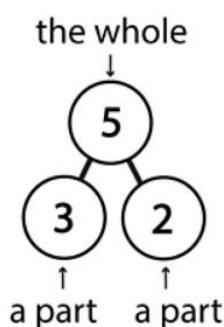
*By becoming fluent in maths facts, it allows our brain to concentrate on higher level skills.*

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## Composition:

This is when children learn that all the numbers are made up of 1's. Compositioning and de-compositioning numbers involves children investigating part- whole relations. E.g. Seeing that 3 can be composed as 1 and 2. The children will learn from practical experience that a 'whole' is made up of smaller parts, and therefore, the whole is bigger than its parts.

To show this we use a **part- part- whole** model.



This shows that 5 can be represented and shown as the whole 5.

5 lots of 1 makes 5

1 and 4 more makes 5

2 and 3 more makes 5

3 and 2 more makes 5

4 and 1 more makes 5

## Everyday Maths you can do at home:

### Number rhymes:

- 5 little monkeys jumping on a bed
- 1,2,3,4,5 once I caught a fish alive
- 5 little men in a flying saucer
- 10 green bottles



### In the street:

- Recognising bus numbers
- Number plate hunt- who can spot a 7 and a 1? What does it make if you add them together?
- Compare numbers on house door; street signs or numbers in shop windows.
- How many lampposts or blue cars can you count on the way to school?



### Time:

- What day is it today, yesterday, tomorrow?
- Use timers, clocks and phones to measure time for a short period to complete a task.
- Have a count down from 10 or 20 seconds to get in/ out of the bath, bed or to the dinner table.

### Doing the washing:

- Group the washing by colours
- Count the number of socks
- Order clothes by size or find shoes that are different sizes and sequence from largest to smallest.



### Going shopping:

- Reading price tags of food/ check out till numbers
- Counting items in the basket
- Finding and counting out coins
- Weighing the vegetables/ fruit. Which is the biggest/ lightest/ smallest/ heaviest/ lightest?
- Play shops at home



### Measuring household objects:

- Who is the tallest/ shortest in your family?
- Draw around hands or feet and see how long the sofa/ table is. Which one is the longest?
- How many steps to bed? Is this the same number in Grandparents house?
- How many steps is it to the garden?
- Pour out liquids in small/ large jars when in the bath- draw attention to more and less.



### Shapes:

- Look at their toys, how many shapes can they find 2D and 3D shapes?
- Paint with fruit and vegetables to create patterns, cut out shapes into potatoes
- Shape hunt at home or outside, play 'I spy with my little eye something that is square, there'
- Use old newspaper/ magazines/ birthday cards to cut up and make shape pictures.

### Games:

- Playing card games such as snap / pairs
- Board games- Twister/ snakes and ladders/ connect 4/ pick up sticks.
- Make jigsaws or complete a jigsaw together
- Simple dice games, adding two numbers together.
- Dominoes, encourage child to say how many spots without counting.
- What time is it Mr wolf? Hop scotch with numbers or shapes.
- Hide numbers around the house or garden for children to find



## Books to promote Mathematical Thinking and investigation:

1. [\*On the Launch Pad\*](#): A counting book about rockets written by Michael Dahl. This counting book will be popular with any children who love space and rockets! It counts down from 12 to one, teaching the children about number order.
2. [\*One is a Snail, Ten is a Crab\*](#) written by April Pulley Sayre. This is a fun way of counting the feet that different creatures have. The children will love looking at the colourful pictures and helping to count the feet on each page.
3. [\*The Very Hungry Caterpillar\*](#) by Eric Carle. This classic favourite not only teaches children about life cycles, but also has early maths skills. The children are able to count the fruit that the caterpillar eats, and gain an early awareness of value.
4. [\*One Duck Stuck\*](#) by Phyllis Root. This is a story about a duck who gets stuck, with groups of animals trying to pull him free. The story builds anticipation whilst the children count the animals.
5. [\*Ten Stars Twinkle\*](#) by Julie Aigner-Clark. This Baby Einstein book allows young children to count the glittery stars, losing one each time until the moon comes out. Children are able to experience early maths skills whilst feeling the book.
6. [\*Round is a Mooncake\*](#): A Book of shapes by Roseanne Thong. This is a story about a little girl who finds a range of different shaped items outside. It is very culturally diverse, with the items ranging from a pizza box to Chinese lace.
7. [\*Goldilocks and the three bears\*](#) by Nicola Baxter. This classic story tells how Goldilocks makes herself at home in the bears house eating their porridge and sleeping in their beds. It allows the children to talk about sizes of the items for all three bears in the house.
8. [\*What's the time, Mr Wolf?\*](#) by Annie Kubler. This finger puppet story teaches children about telling the time, as they move through the day with Mr Wolf, anticipating lunchtime.
9. [\*How many seeds in a pumpkin?\*](#) by Margaret McNamara. This story allows children to explore early maths skills through estimation. It allows children to problem solve and offer their thoughts and opinions.
10. [\*Ten Little Dinosaurs\*](#) by Mike Brownlow. This story teaches children about counting up to 10 through the use of rhyme. There are others versions available, such as Ten Little Princesses or Ten Little Pirates.

### Links at home:

- <https://nrich.maths.org/early-years>
- <https://www.topmarks.co.uk/maths-games/3-5-years/counting>
- <https://www.bbc.co.uk/cbeebies/games/numberblocks-make-and-play>

Thank you for your continued support,

The Early Years Team