Maths

A Guide to Maths Mastery in Reception

What is teaching for Mastery?

At Wheldrake with Thorganby Primary School we see teaching for mastery in maths as pupils acquiring a deep, long-term, secure and adaptable understanding of the subject. Children in reception develop the concept of maths mastery through maths talk, practicing the skills they've learned during play, and developing number sense.

Teaching for Mastery

We follow the White Rose Maths scheme of learning which supports the delivery of a curriculum that embeds mathematical thinking and talk. We focus on teaching fluency, reasoning and problem solving. In addition, we also follow NCETM Mastery of Number.

How do we teach Mastery for Maths?

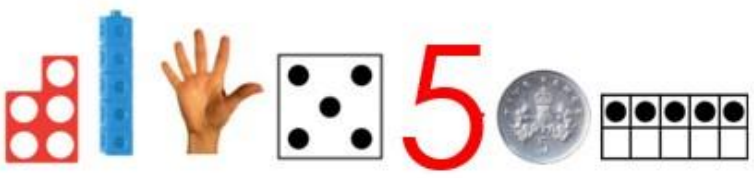
Fluency

In Reception, we aim to teach so that children have a deep understanding of number.

Representing Numbers

We want to develop children's number sense so that they understand the number rather than just recognising the numeral. Children need to understand that numbers can be represented in many ways, not just as a written numeral. We use many different objects and pictures to show that numbers can be represented in lots of ways.

Some wasy to represent five



Children sometimes need lots of practise to recognise numbers in different forms. We play matching games and encourage children to recognise and make different amounts in our indoor and outdoor areas.

Counting

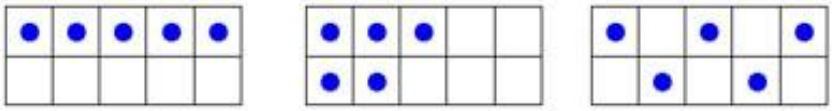
When counting, children need to understand:

·That we need to say one number for each object counted (touch counting). ·The final number we say is how many altogether. Some children continue to count after they have reached the final object as they don't connect the numbers they are saying to the objects in front of them.
·That we can count objects in any order and the total stays the same.

Recognising amounts
Another skill that is very important is recognising small amounts without the need to count them. 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.



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

Reasoning

Reasoning in maths helps children to be able to explain their thinking, therefore making it easier for them to understand what is happening in the maths they are doing. It helps them to think about how to solve a problem, explain how they solved it and to think about what they could do differently.
In Reception, some examples of reasoning are:
·true and false statements e.g. adding one to a number always makes it smaller
·spotting incorrect maths e.g. 1, 2, 3, 4, 6, 5, 7, 8, 9, 10
·explaining how we know something or how we worked it out

Problem Solving

Problem solving in maths allows children to use their maths skills in lots of contexts and in situations that are new to them. It allows them to seek solutions, spot patterns and think about the best way to do things rather than blindly following maths procedures.
In Reception, problem solving might include:
·spotting, following and creating patterns
·estimating amounts of objects

·predicting how many times they can do something in a minute
·sharing objects between different groups – particularly when the amount of groups change and the amount of objects stays the same
·finding different ways to split numbers e.g. 5 could be 5+0, 4+1, 3+2 etc.

How can I help at home?

·Count - steps up the stairs, money into a money box etc.
·Ask children to say how many without counting (5 or fewer objects). ·Play games using a dice and encourage child to say how many spots without counting.
·Ask children to set the table with enough knives, forks and plates for everyone. ·Spot numbers in the environment – on phones, microwaves, clocks, registration plates, doors etc.
·Deliberately make mistakes. Children need to understand mistakes are normal and everyone makes them e.g. get mixed up when counting, muddle two numbers when ordering them.
·Watch Numberblocks on Cbeebies. This programme is designed so your child can just press play and have fun while learning essential number skills. Numberjacks is also very good for helping children to develop early maths skills.
·Model estimation, saying how many you think there might be before counting how many there are.
·Play outdoor maths games like hopscotch and skittles. Even better, let children make up their own games and decide how to score points
·Read books with maths concepts e.g. The Very Hungry Caterpillar, One is a Snail, Ten is a Crab, What's the time, Mr Wolf?
·Ask questions such as, "Who has more/less?", "How many more?", "How many altogether?", "How many would I have if…

