

How we teach Maths at Ellingham Splash



MATHEMATICS

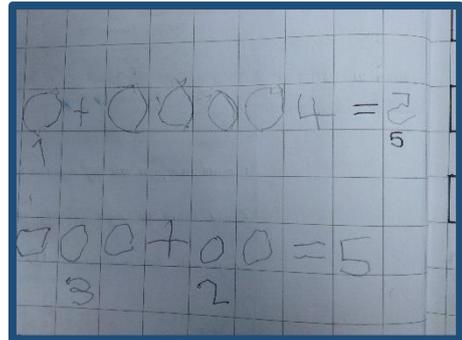
A helpful guide for
parents

In Splash, we try to make maths relevant to children and their world. It is important that they see how maths is used in everyday life to solve problems. A lot of our maths is done throughout the day, as we sort out snack time; check which children are present in school; count along the line to go to Forest School; pour out our milk, and share out the playdough with our friends.

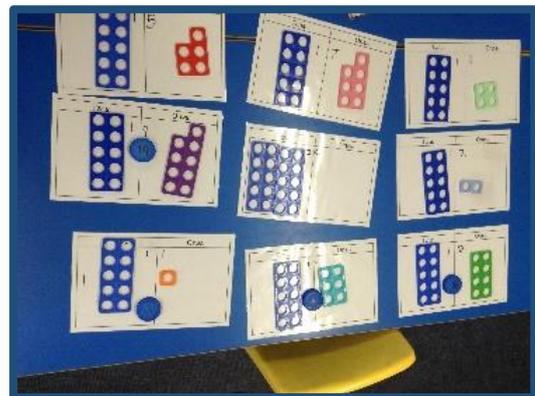
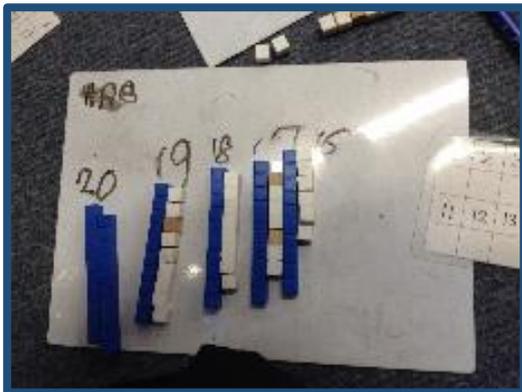
When we teach maths, we start by using concrete resources. These can be counters, buttons, bottle tops, playdough... anything the children can touch, feel and manipulate. This means children can feel as well as see how many they have and can physically add or take away objects to make new quantities. This is the most important step of all and should not be rushed or thought of as a support strategy. Children who can explain their thinking with concrete resources have a much deeper understanding of maths than children who work out answers in their heads.



Once we are secure with using concrete resources, we move onto using pictorial representations of maths. This is always presented to children alongside the concrete resources and never alone. Often this is just simply asking the child to draw what they have done or to draw what they see. This is the first step in understanding that a number represents a quantity and a number sentence describes a mathematical function.



Abstract representations of maths include all the numbers and =, +, -, x, and ÷. Children learn that these symbols represent a quantity or a function. This is an important stage and we always have concrete resources available with any abstract representation, so that children can see and feel what they are doing in response to these symbols. To start with children are asked to use some symbols to record what they have done, and eventually to read the abstract symbols, and know how to follow the instruction.



Number Sense



Children need to have a good understanding of every number to ten, by making groups, counting and recording numbers and comparing quantities. They spend time playing and experimenting with each number, learning to recognise it on a dice or domino or in a different arrangement. Being able to recognise numbers without counting is called

subitising and is an important skill in maths. Playing dominoes and board games is an excellent way to practise this.

Addition

Addition for young children is all about combining numbers and quantities. We start with the language of more or less, combining lumps of playdough, tipping more lentils into a pot or taking some away, adding more water to a mix or pouring some out.



This develops as children learn new vocabulary and language and begin to count on.

Combining two groups of objects and counting how many altogether is the next step. Our children learn to count on from a number

that is bigger than one, and to double numbers.

Knowing how each number is made up, is part of this

learning process and we spend lots

of time investigating how numbers are made. We

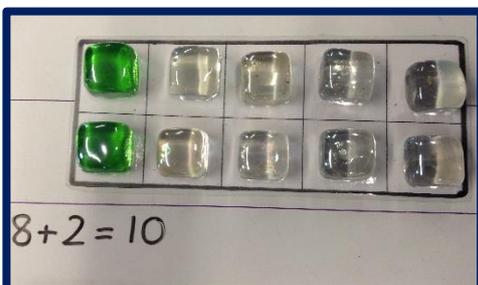
call these **number bonds** and we aim to learn all

the different number bonds for each number to

ten! Ten is the basis for our counting system so

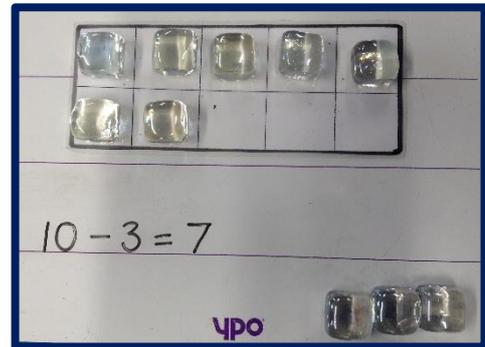
we spend lots of time using tens frames and

grouping objects into tens. Understanding how ten is made up is the key to a good understanding of number.

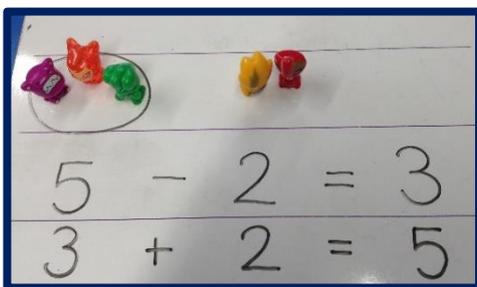


Subtraction

This is a harder concept for young children as it involves lots of different calculations. Subtraction can be physically taking objects away, counting up from one number to the next to find the difference, or jumping along a number track and counting the jumps.

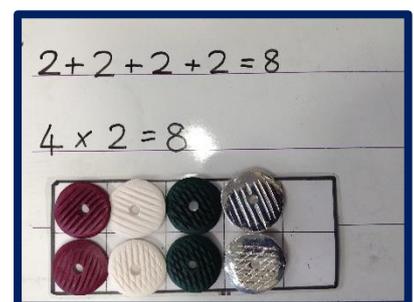
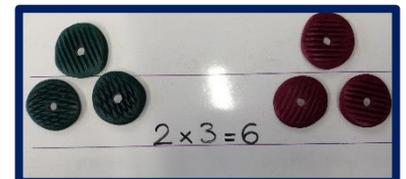


In EYFS we focus on taking objects away. This is done with concrete resources, then pictorially (by crossing out symbols) and then with a subtraction number sentence. As always, we provide counting equipment for children to work out the answer and we are delighted when they use it!



Multiplication

Early multiplication is linked to addition. Children make groups of a number and add them together in order to gain an understanding of the basic concept of multiplying. We use lots of real life problem solving to practise this and children count out snacks for their toys or beads into pots, making sure each group is the same. We introduce the 'x' sign and talk about it in preparation for Year One.



Division

Division for small children is all about sharing fairly and equally. From an early age our children are encouraged to share playdough, toys, fruit, raisins, snacks, biscuits etc. with their friends, making sure everyone gets the same amount. The idea of sharing fairly is well embedded by the time children meet division and they are very determined that things should always be fair and equal. We introduce the concepts of halves and quarters early on in Splash with fruit and messy play, so that children understand the concept that two halves must be the same size.



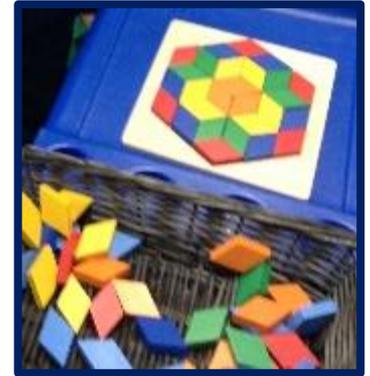
Baking

Baking is the most fantastic mathematical activity. Even if you are a complete novice, please take every opportunity to bake with your child. You will be amazed how many of the maths concepts above are used to do baking, and you get to eat cake at the end!



Shape, Space and Measures

This aspect of maths is taught mainly through play in Splash. Children are given flat and solid shapes to handle and arrange and adults model and repeat the language of shape. Junk modelling teaches children lots about the properties of shapes and how they can be changed.



Construction play also teaches children about size as well as shape and adults add challenge by encouraging children to talk about their models and how to improve or adapt them. They learn about tessellation and quantity while building their models, this becomes more and more complicated as they grow and learn.



Role Play



In role play, children learn the language of time, money, capacity and weight through different imaginary games. Role play is set up carefully with learning goals in mind and the adults play with the children, modelling mathematical language to them during play. We try to make role play as close to a real experience as we can.

You can help your children at home by letting them handle and spend real money, helping you to weigh ingredients for cooking and talking about time, as well as pointing out the time on a clock or a watch.



Pattern

Pattern is a vital part of maths. Children need to be able to spot and continue patterns to understand and use our number system effectively. We teach an understanding of pattern in lots of different practical ways and encourage children to spot patterns in the environment around them. This means that they will then be able to see and work with patterns in number such as counting past 20, times tables and odd and even numbers. By the end of Reception, we introduce these number patterns for children to explore and enjoy.



Sorting

Being able to sort items into groups is part of early maths. Children learn to group objects according to different criteria and begin to know which ones can't be grouped and why. Here children are sorting animals according to their own criteria. This can be done at home with buttons, snacks, toys etc. Children have a natural urge to sort and group objects and find this very satisfying.

