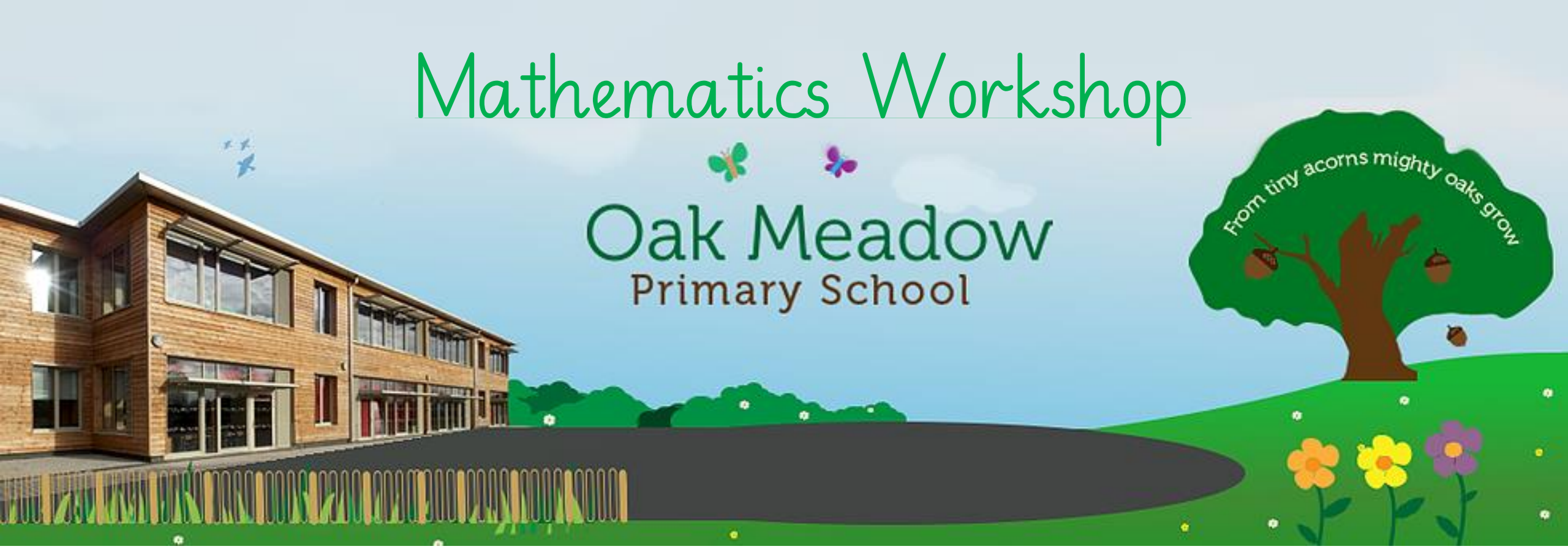
Mathematics Workshop



Thank you for accessing our early mathematics workshop. We hope it gives you an insight into what maths in Reception looks like and provides strategies and ideas that you can use with your child at home.

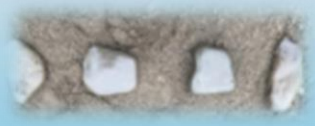
Developing a Love and Curiosity of Number

In Reception, we focus on building a strong sense of number and how to identify numerical patterns. Developing a strong foundation in early number is essential to ensure children are equipped with the necessary building blocks to excel mathematically.

Number sense enables children to develop their understanding and confidence when exploring, manipulating and comparing numbers, which then supports them in their approach to solve problems and calculations.

Children have a natural instinct to be curious and explore, therefore it is important that we assist them, make links and highlight patterns in numbers within everyday life and the outdoor world.

In Reception, we promote any mathematical challenge or problem as a positive opportunity to explore. It is vital 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. We promote this attitude by modelling it ourselves, by making mistakes and talking through the method of how we can solve the problem.





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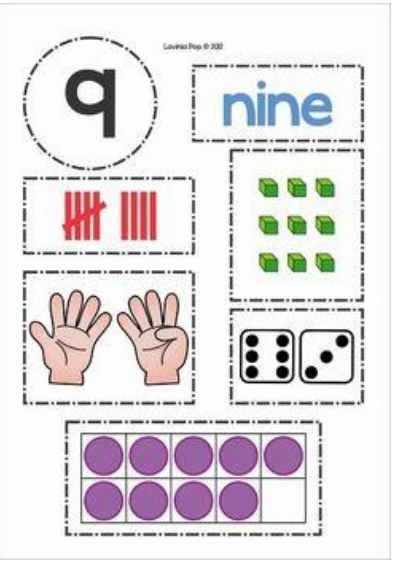
Importance of Number Sense



To develop a strong and secure understanding of number, children should be able to do the following:

- Rote count confidently (saying number names in order);
- Have a deep understanding of the numbers to 10;
- Explore the relationships and connection between numbers;
- Identify patterns within numbers to 10.

It is important that we provide frequent and varied opportunities to allow children to build and apply this understanding. In Reception, we use a range of manipulatives, including loose parts, Numicon and tens frames, to support and scaffold your child's number skills. This allows children to develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

Furthermore, we ensure a broad curriculum is taught that includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics. Shape, space and measures activities (which include height, length, weight and capacity) are thread throughout the year to ensure children are exposed to a variety of experiences and mathematical problems.

Early Years Foundation Stage – Mathematics

Throughout the year in Reception, your child will work towards achieving the following Early Learning Goals (ELG):

ELG: 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 number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

ELG: 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.

Early Years Foundation Stage – Mathematics

Throughout the year, your child will build upon their number knowledge and we focus on the following:

Autumn – numbers 0 - 5
Spring – numbers 6 - 10
Summer – numbers 11 - beyond

This approach to learning, exploring and unpicking number enables your child to see connections within numbers, which provides them with the tools to make links later on in their school life. For example – if your child knows that within 5 there is 2 and 3, when they need to calculate 28+5, they can use their knowledge of 5 to mentally calculate the equation (28 + 2 = 30 then 30 + 3 = 33). Furthermore, if your child is secure in noticing patterns in the counting system, this then supports their understanding of times tables, which are repetitive patterns.

Exploring Maths at Home

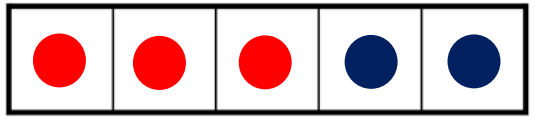
Number sense develops over time through opportunities to explore and play with different resources. Visualising numbers in different contexts, spotting relationships and predicting patterns all contribute to good number sense.

You can support and develop your child's understanding by identifying maths in everyday life, developing a discussion about number and providing opportunities such as the following:

- Laying the table at a meal time – how many plates do we need? How many have we already got? How many more do we need?
- Identifying numerals at the supermarket, on a bus or on houses
- Asking your child to pick up a quantity when they are tidying up – can you pick up those 3 pencils?
- Singing counting songs such as '5 Cheeky Monkeys' – you could even have some teddies to represent each monkey!
- Counting objects out loud – maybe you can make a mistake, can your child to spot it?
- Cooking – measuring ingredients and sharing food out
- Playing games like 'smack the number' – having numerals or dots representing numbers – can your child smack the number that you say?
- When you are eating sweets or pieces of fruit – who has more/fewer? Can they count out an equal amount themselves?

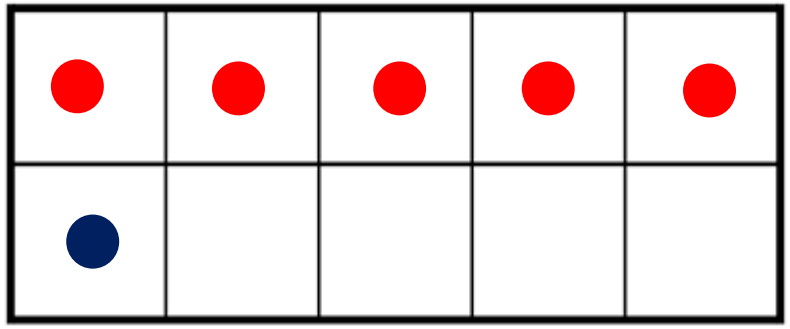
Resources - Frames

At Oak Meadow, children use different ways to represent, compare, order and explore number. Below is a five frame and a ten frame that we use to support, secure and imbed children's understanding of number. You could use these at home by drawing them on a piece of paper.



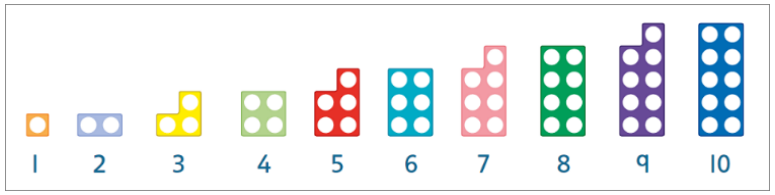
We first introduce the children to a **five frame** in the Autumn term. Children know that when the five frame is full, it represents five. This knowledge helps them to practically understand a variety of number knowledge. For example - to see numbers quickly (subitise), notice numbers that are within five (shown above) and can visually see the concept of one more and one less etc.

In the Spring term, when we explore numbers above 5, we introduce the children to a **ten frame**. The children will then see the connection of two five frames coming together to make ten. In addition, this support the composition of 5 and 1 more is 6, 5 and 2 more is 7 etc.



Resources - Numicon

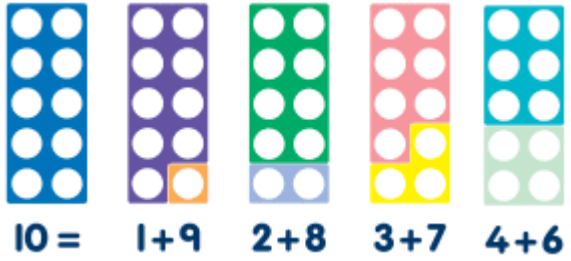
Numicon is a fantastic resource that is again used throughout school. Each Numicon shape represents a number from 1-10. We use the resource in a variety of ways, some of which are shown below:



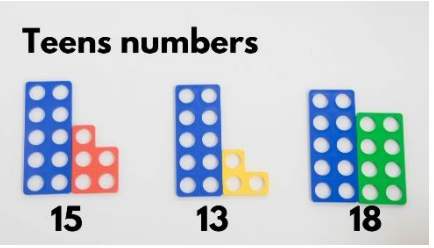
To support your child's understanding of the pattern of the counting system.

To practically represent numbers and count accurately.

To scaffold adding numbers together and finding number bonds!



To represent odd and even numbers visually. Children can see that odd numbers cannot be shared equally.



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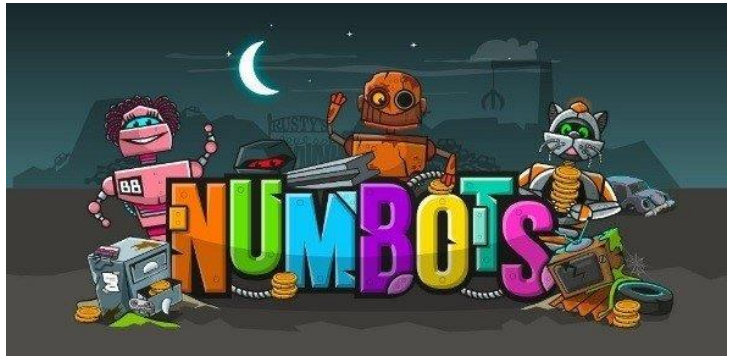
Interactive Resources to Access at Home

NumBots

NumBots is a fantastic programme that supports the recall of number facts and builds a conceptual understanding of seeing numbers in different representations. There are two modes – Story Mode and Challenge Mode. As the children progress through the levels, they can receive rewards to upgrade their robot – a big incentive!



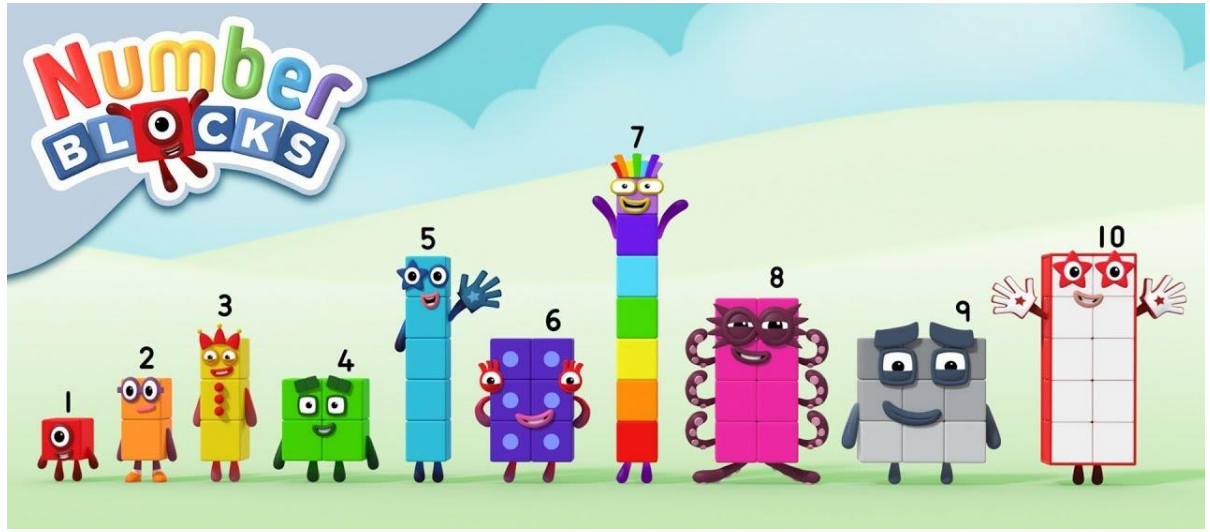
MathsShed

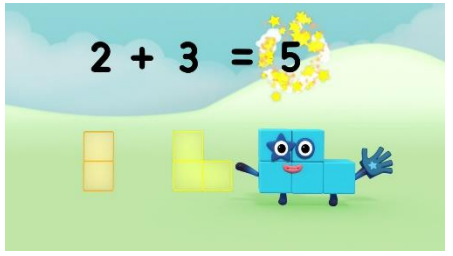
MathsShed is a valuable resource that reinforces number knowledge and provides opportunities for children to practise skills they have been taught in school. They also use the same scaffolding resources such as five and tens frames. In Autumn 2, quizzes are set for homework for your child to complete weekly.

Every child has been given a username and password for each resource. Please ask your child's class teacher if you need another copy.

Numberblocks

Numberblocks is a brilliant TV programme that shows numbers in different representations. Throughout the seasons of the programme, it goes through many early math skills such as counting, composition of numbers, number recognition, beginning addition and subtraction, odds and evens, and more. Numberblocks is a very beneficial resource that will imbed knowledge that your child will be learning in Reception but also within KS1. Episodes can be found on Cbeebies and YouTube.





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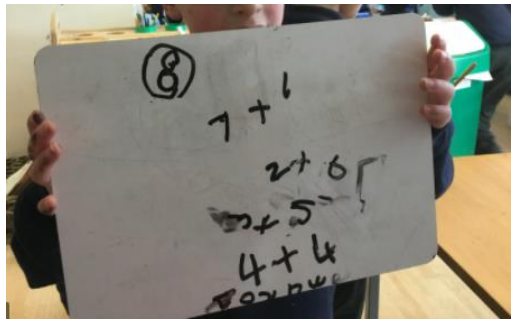
Thank you for your continued support. If you have any questions about early mathematics, please speak to your child's class teacher ☺

Every child is a mathematician.



The only way to learn **mathematics** is to do **mathematics**.

PAUL HALMOS