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# Teaching and Learning Mathematics at Keston Primary School



# Aims

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- To share how mathematics is taught at Keston
- To outline the different stages of children learning to count
- To show the resources and strategies we use to teach maths
- To share some ideas for how to support your child at home

# The Early years foundation stage curriculum

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The EYFS curriculum splits maths into two different areas:

## **Number**

Children will learn to recognise, order and count numbers. They will learn to solve simple problems involving addition and subtraction.

In nursery the focus is on becoming aware of numbers and knowing that they can be used for labels and for telling us how many.

By the end of reception children will have a deeper understanding of numbers and will be able to confidently use them to solve problems.

## **Shape space and measures**

Children will use everyday language to talk about the size and shape of objects. They will explore weight and capacity and begin to use mathematical language. Children will also begin to recognise, describe and create patterns.



# Making maths real and purposeful



Mathematics learning has to be meaningful to children for them to understand. We provide lots of opportunities for children to explore maths so that it makes personal sense to them. These include:

**Real life experiences-** we use our role play to give children different mathematical exposures. This could include a shop with money and fruit and vegetables to count out.

**Cross curricular links-** Through questioning we can encourage children to use mathematical language when building in the construction area or when outside in the water tray, mud kitchen or sand tray.

**Linking maths to stories-** We use books to enhance all of our topics. Lots of stories can be used to encourage children to count and use mathematical language including 'Ten little dinosaurs' and 'Ten little caterpillars'.

# What does maths teaching look like at Keston?

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- Daily carpet times to teach new skills and practise previously taught ones.
- Table top mathematics activities inside and out. All classrooms have a designated open 'maths shelf' for children to independently access maths equipment to move their learning on.
- Opportunities for cross curricular links, prompts for children to use mathematical language and skills in all areas of the classroom. E.g. counting how many bricks they have used in the construction area. Children will often find their own mathematical problems when playing independently.
- Focus activities. Teachers will spend time each week working with children individually or in a small group using and developing a skill that has been taught. E.g. simple problem solving, ordering numbers, counting groups of objects and working out one more and one less.

# The importance of counting

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Children need to learn a range of skills to become confident at counting and have a good understanding of number. We need to ensure they are confident with **all** of these skills:

**One to one principle-** To know that a number must be assigned to each object that is counted.

**Stable order principle-** To know that the order of number names always remains the same.

**Cardinal principle-** To know that the final object counted tells you how many are in the group.

**Order irrelevance principle-** To know that the total remains the same even when objects are moved about or mixed up.

[https://m.youtube.com/watch?v=TuJk\\_-71KyM](https://m.youtube.com/watch?v=TuJk_-71KyM)

<https://www.youtube.com/watch?v=wTI3RqnOn1M>





# Reasoning in Mathematics

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A very important part of maths learning is the ability to reason and explain their thinking. Children need to be able to justify and prove their answers, explaining how they know they have got the correct answer.

This has been a big focus for Keston this year throughout all year groups and has had a positive impact.

Good reasoning skills leads to a greater depth of understanding and mathematical thinking.



# Reasoning in Early years

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Reasoning in early years begins with children having a deep understanding of each number and what the number name actually means.

We develop these skills by spending much more time on smaller numbers giving children a more in depth understanding. It also allows children to learn quite advanced skills and concepts which can then be applied to any number.

In Reception focus teaching will look like this:

0-5 in Autumn term

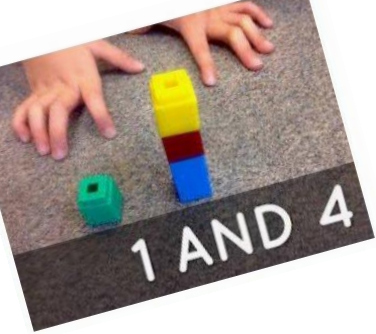
0-10 in spring term

Teen numbers and above in the summer term.

Children will still have access to bigger numbers and they will be encouraged to use them in meaningful contexts.

Each term children will solve problems involving one more and one less and simple addition and subtraction.





# “The fiveness of five”

For each number children will explore different ways to represent it.

This may include them finding their own resources to make representations.

Children may use objects they have counted out, numicon, the number symbol, their hands, unifix cubes, duplo bricks.

We will encourage children to think about number bonds and how they can make each number in different ways. For example understanding that 5 is also made up of 4 and 1, 3 and 2 or 5 ones.

They will also learn the position of each number in sequence, being confidently able to identify the number that comes before and after.



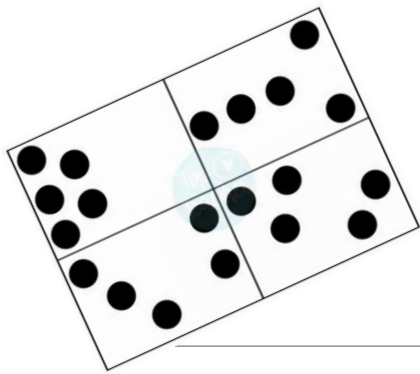
# What do we use?



Numberblocks is a cbeebies series that many schools now use to enhance maths teaching and to introduce children to early number.

It uses a maths mastery approach to teaching and focuses on many skills, number rules and concepts making learning fun and relevant to children.

<https://www.youtube.com/watch?v=QuOIMehmN-o>



# What do we use?



## Subitising

Subitising is an important skill for children to master.

It is the ability to know the amount in a group without the need for counting them.

It may begin by recognising how many fingers someone is holding up or the amount of dots on a dice.

It eventually leads to children recognising number bonds and number facts as well as number properties.

<https://www.youtube.com/watch?v=Lwt7NgfeZRY>

<https://www.youtube.com/watch?v=ib5Gf3GlzAg>

# What do we use?

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## Numicon



Free printable resources  
available at

[https://www.numicon.co.nz/uploads/66441/files/NUMICON\\_SHAPES\\_1-10-15568.pdf](https://www.numicon.co.nz/uploads/66441/files/NUMICON_SHAPES_1-10-15568.pdf)

Great for exploring number patterns, number bonds, odd and even numbers.

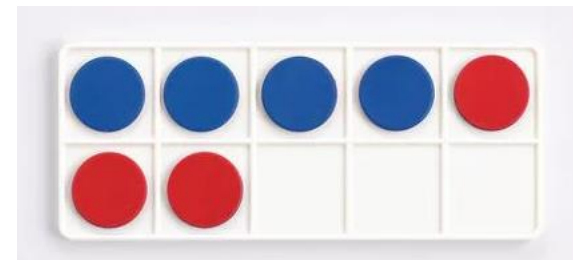
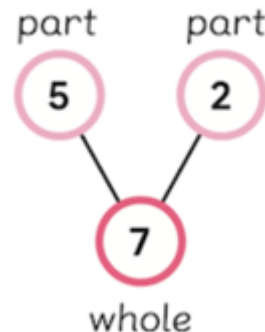
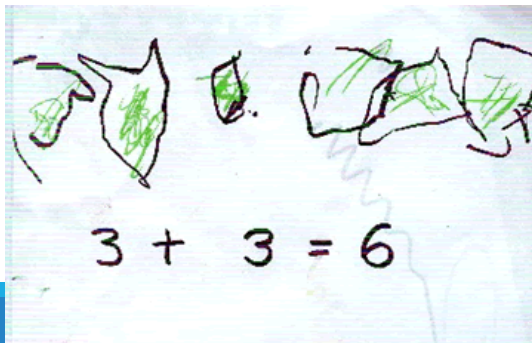
# Recording mathematical thinking

Children will record what they have found out in different ways.

In Nursery this may begin by making visual representations:



In Reception, children will begin to show their thinking by drawing pictures, writing number sentences, using a part part whole model or using a tens frame.





# How can you support your child at home?

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- Cooking, measuring out ingredients with your child. Talking about the weight and quantity of the ingredients.
- Setting the table, how many plates will we need? Do we have enough?
- Singing number rhymes
- Number hunts when out and about, what numbers can the children see on doors or car number plates?
- Jigsaw puzzles
- Playing games such as snakes and ladders, using a dice
- Asking your child to help you pay for items when out shopping, what coins do we need to use?
- Looking at and naming the shapes of things when out and about
- Sharing stories and counting different things in the pictures
- Construction activities, encourage your child to talk about how many pieces they have used or how many more they think they might need