Reception
Maths Workshop

Today's talk



- **What does maths look like in Reception?**
  An overview of what children experience day-to-day in school.

- **Understanding the Early Years Curriculum**
  Key objectives and how they support your child's development.

- **Our approach to teaching maths**
  How we make learning practical, fun, and meaningful.

- **Resources**
  Physical manipulatives, books, and websites to support learning.

- **Ways you can support your child at home**
  Simple, everyday ideas to build confidence and enjoyment in maths.

At The Mead we want your child's experiences of Maths to be……

Fun and enjoyable

Engaging and hands-on



Exciting and memorable

Inclusive and supportive

Exploratory and creative

Developing mathematical understanding

Children build their maths skills through four key areas:

* **Exploring:** Engaging in play with numbers, shapes, and patterns; trying things out and discovering through hands-on experiences.

* **Reasoning:** Thinking and talking about maths: answering questions like *"Why?"* and *"How?"* and explaining what they have found.

* **Problem Solving:** Investigating challenges and asking*"What would happen if…?"* to find solutions in different contexts.

* **Fluency:** Developing quick and accurate recall of key facts and methods. Fluency reduces mental load, allowing children to focus on reasoning and problem solving.





Early Years Foundation Stage (EYFS)

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers."
(EYFS Statutory Framework, 2021)



The Early Learning Goals

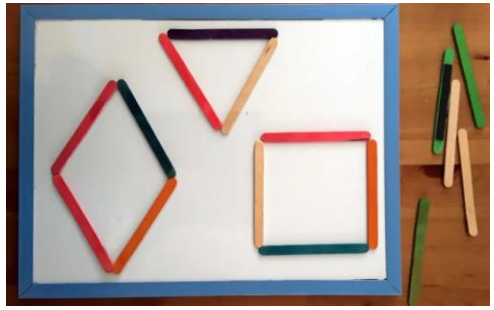
Mathematics

Number

- 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.

Numerical Patterns

- 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.







Our Progression Trackers

This is on the school website and shows the progression from Nursery to Year 2.

The Mead Infant & Nursery School –Maths Subject Progression Tracker

Maths Subject Progression Tracker				
	Nursery EYFS Maths & White Rose Curriculum	Reception NCETM Mastering Number Curriculum	Year 1 White Rose Curriculum & Mastering Number Fluency Sessions	Year 2 White Rose Curriculum & Mastering Number Fluency Sessions
Number – number & place value	• Uses number names and number language in play and may show fascination with large numbers • Points to (tags)each item when counting, saying one number name for each item using the stable order of 12345 • Beginning to recognise numerals 0-10 • Talks about groups of objects and notices that larger groups can be made from smaller groups. • Subitises using fingers to show one, two and three objects without counting. • Subitises using number names to show one, two and three objects without counting. • Counts up to five objects recognising that the last number is the total number counted (cardinal principle) • Talks about and names numerals important to them • Links numerals with amounts up to five. • Experiment with their own symbols and marks as well as numerals	**Subitising** • Subitises quantities to 5 without counting. • Recognises familiar arrangements and patterns. **Counting** • Counts reliably beyond 20. • Demonstrates one-to-one correspondence. • Understands the stable order principle. **Cardinality** • Knows that the last number counted tells how many there are altogether. • Links numerals to their cardinal value. **Composition** • Explores how numbers within 10 are composed of smaller numbers. • Explains different ways to make numbers to 10. **Comparison** • Compares quantities and numbers. • Uses the language greater than, less than and equal to.	• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • read and write numbers from 1 to 20 in numerals and words. • Practise counting (1, 2, 3…), ordering (for example, 1st, 2nd, 3rd …) (non-statutory guidance • Subitising structured quantities. • Understanding the composition of numbers within 20. • Comparing numbers using mathematical language. • Flexible partitioning of numbers.	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use <, > and = signs • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems.

The Mead Infant & Nursery School –Maths Subject Progression Tracker

How do we teach maths?

We make it fun! Where possible Maths is linked to real life problems, stories and children's interests.

Using objects, children need to be secure in using practical apparatus before moving onto more abstract concepts.

Throughout the day: counting how many children in the classroom, using the visual timetable, action songs and singing, and questioning during independent learning such as how many blocks have you used? Who is taller, shorter?.

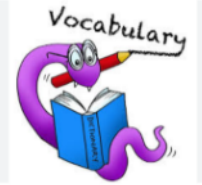
Short, focused carpet inputs with the whole class and in addition, we do small group work and adult led tasks which children complete independently or support by an adult.

As Mead Mathematicians we will:

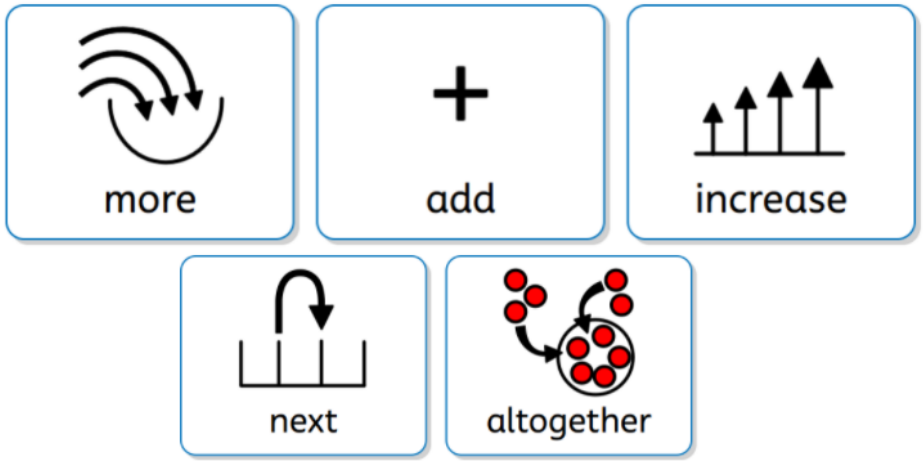


- question
- explore
- predict
- share ideas
- use reasoning
- problem solve
- think mathematically
- use stem sentences

Today we are learning about finding one more of a number.



Key Vocabulary



Stem Sentences

- There are _____
- There are _____ altogether.
- _____ is 1 more than _____

Mastering Number

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Reception now follows the Mastering Number Programme developed by the NCETM.

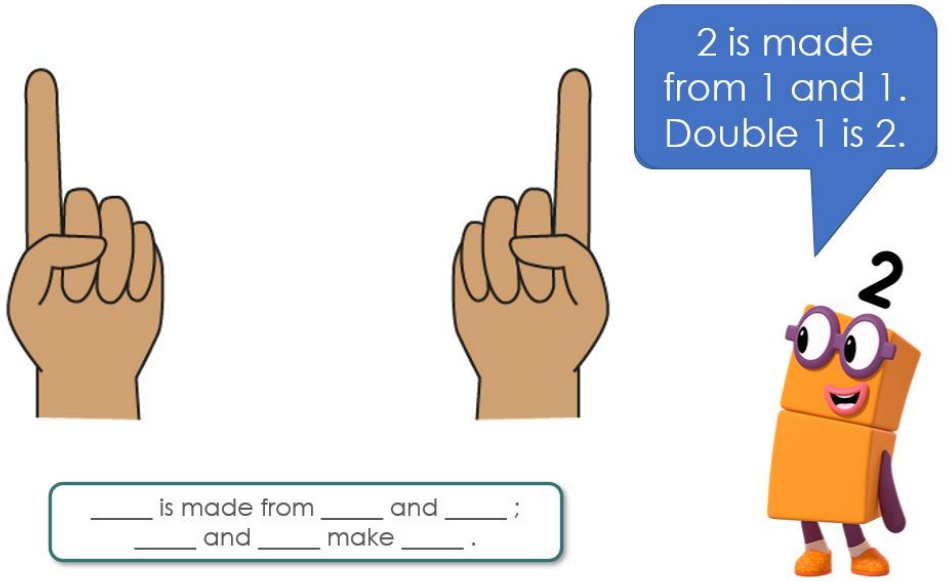
Mastering Number is now used nationally in thousands of schools and is supported by the NCETM to help children develop strong number sense from the very beginning.

Mastering Number helps children to:

- Develop confidence with numbers to 10
- Recognise quantities without counting (subitising)
- Understand number composition (eg 5 is made of 2 and 3)
- Learn number facts in meaningful ways.
- Build strong foundations for future maths learning.

Mastering Number

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS



Version 2 (2022)

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[Numberblocks at home | NCETM]

From Reception to Year 1
Mastering Number to White Rose

Mastering Number and White Rose work together.

Mastering Number develops the number sense children need before moving on to the wider Year 1 Curriculum.
Children are encouraged to explore maths in different contexts and deepen their understanding by doing this, making decisions and making mistakes.

Reception:
NCETM Mastering Number

- Deep understanding of numbers to 10
- Subitising
- Number composition
- Fluency with key facts

Year 1 and Year 2:
White Rose Maths

- Builds on these foundations
- Uses same representations eg numicon, ten frames, part-whole models

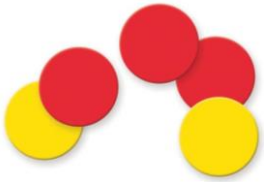


The CPA Approach

Concrete

Introduces real objects and Maths resources that children can use to 'do' the maths.

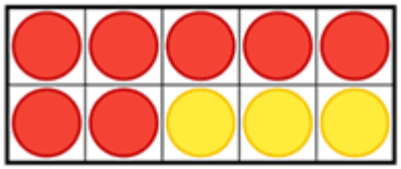


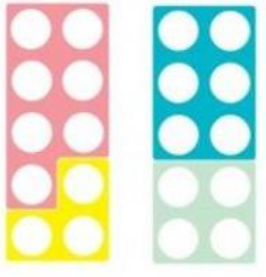




Pictorial

This stage uses pictorial representations of objects to let children 'see' what a maths problem looks like.





Abstract

This stage uses numerals and symbols. It is imperative that children are not moved to this stage too quickly!

7 + 3 = 10

10 = 6 + 4

Concrete



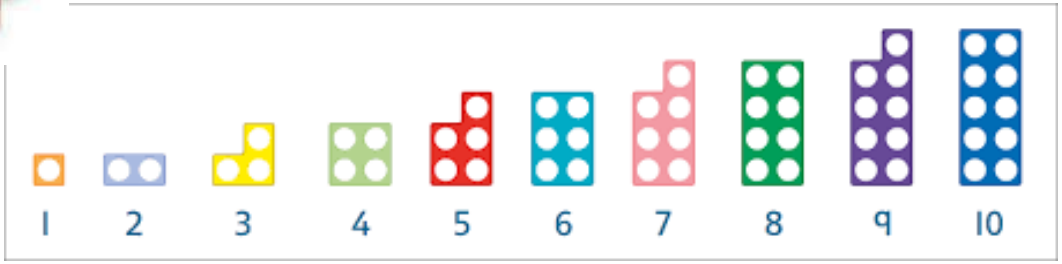












Subitising

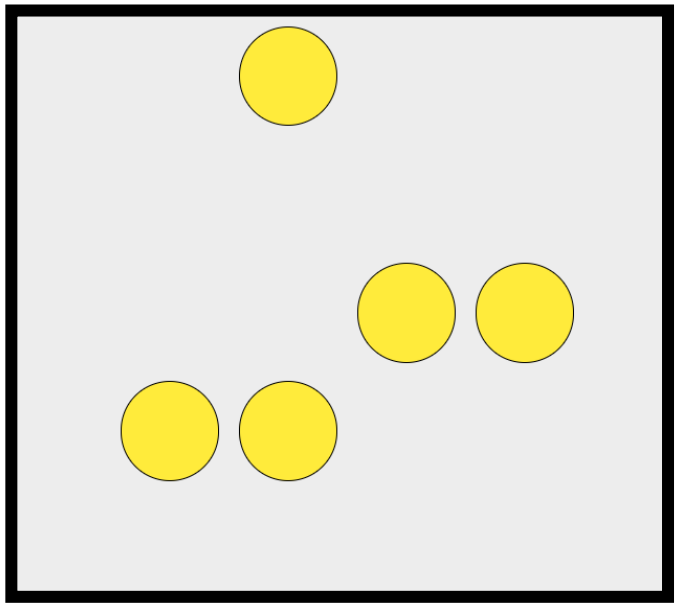
Young children can recognise small numbers of objects without counting – a skill called subitising.

This ability helps them build mental images of numbers, understand ‘how many’, and see relationships like 4 and 1 within 5.



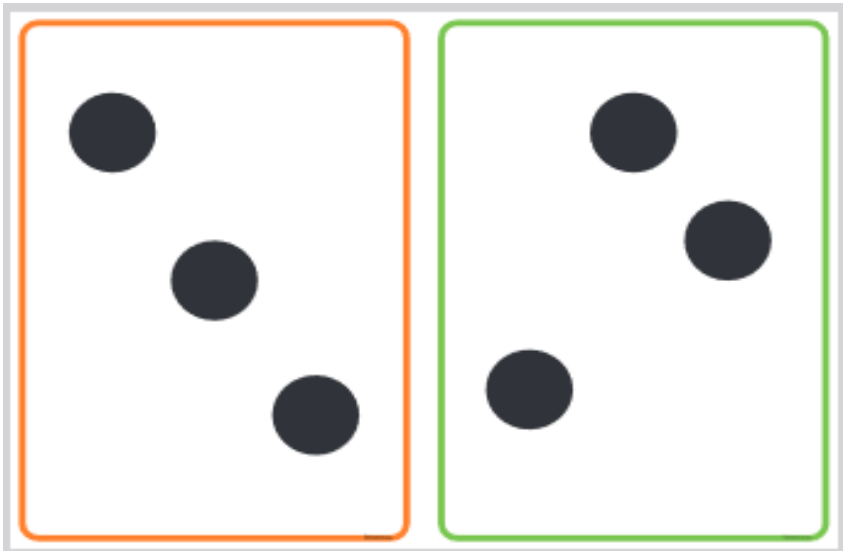
Subitising

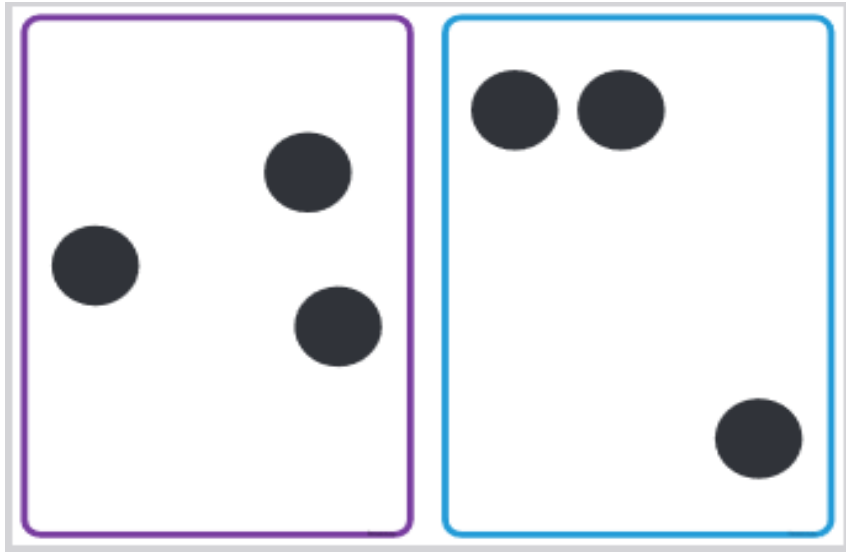
What questions could we ask?



- What do you notice?
- What numbers can you see?
- Can you look at it a different way?
- Can you say the number sentence?

Subitising

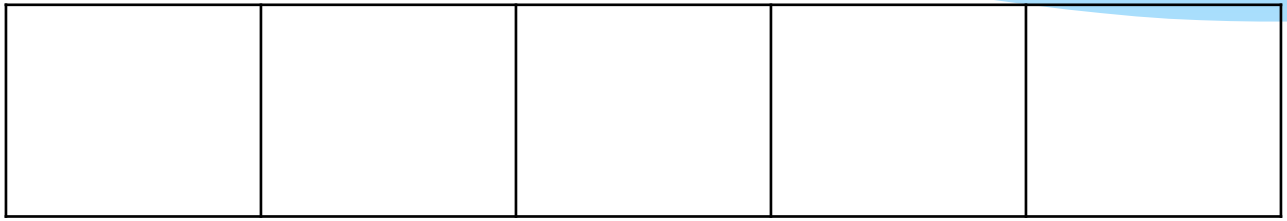


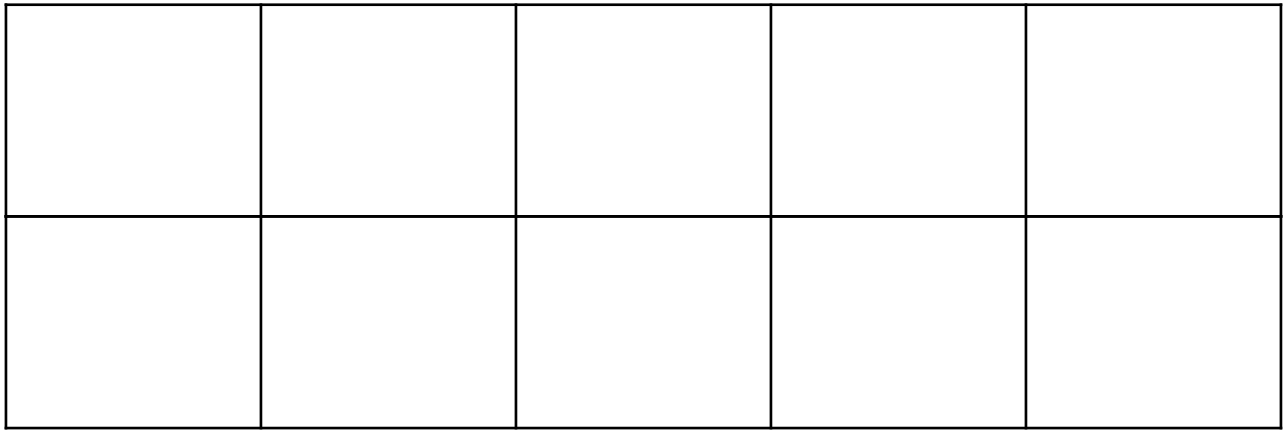


Subitising



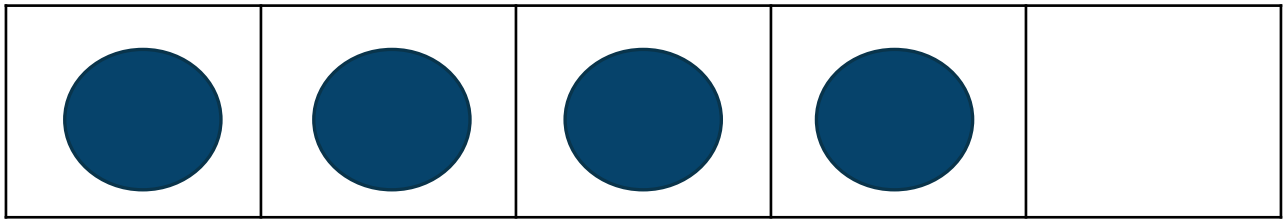
5s frame and 10s frame

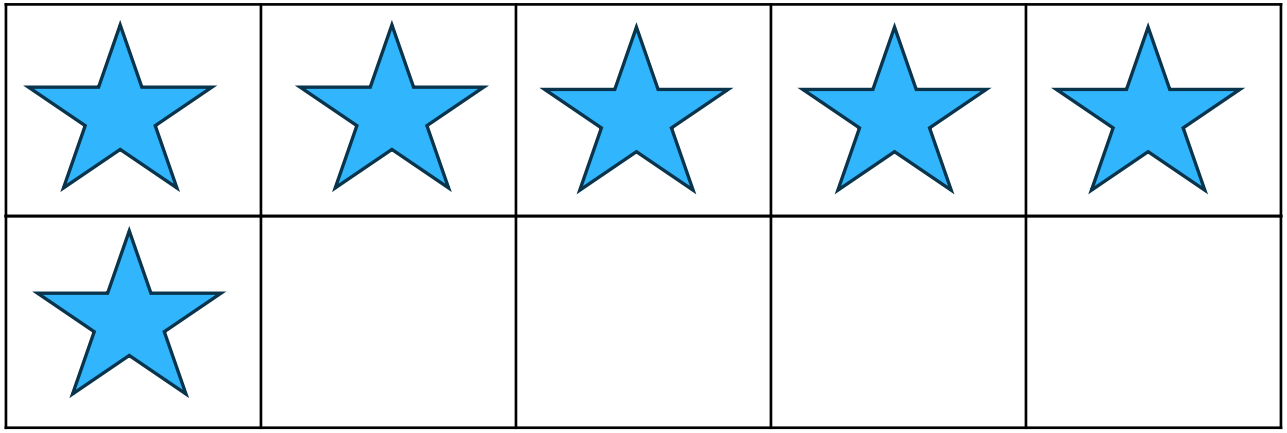




We don’t want children to count objects in 5 or 10 frame – we want them to use the skill of subitising and noticing patterns.

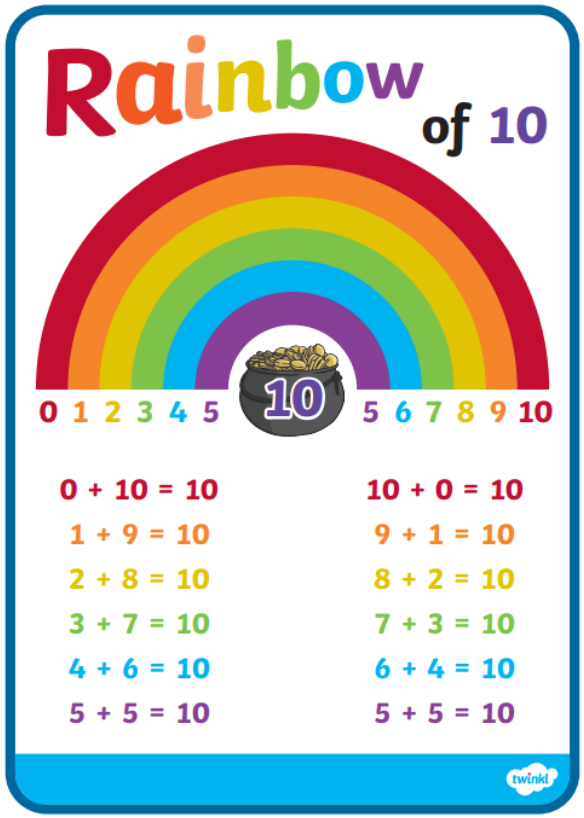
5s frame and 10s frame





Why number bonds matter

- Children need to learn number bonds and understand what they mean—not just memorise them.
- In Reception, we start with number bonds to 5 and then move on to number bonds to 10.
- Knowing these helps children achieve the expected maths outcomes by the end of the year.



Number bonds questions

- Which two numbers make 5? How can you show me?
- Which number goes with 3 to make 5?
- If I have 5 and take away 2, how many will I have left?

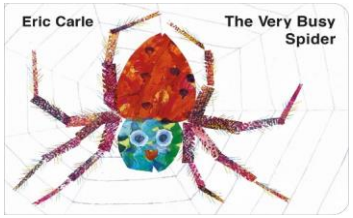


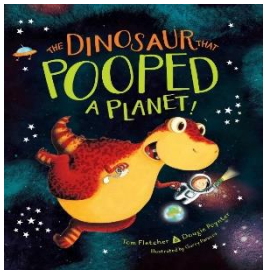
Make it into a story:

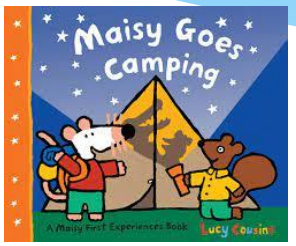
- *I bought 5 pieces of fruit. I bought 3 apples—how many oranges did I buy?*
- *Joe gave me 2 pencils and Ana gave me 3 pencils. How many pencils do I have?*

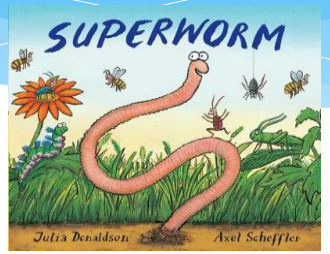


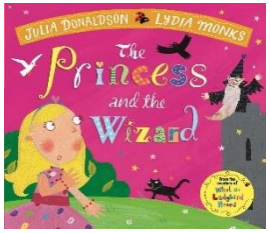
Maths books

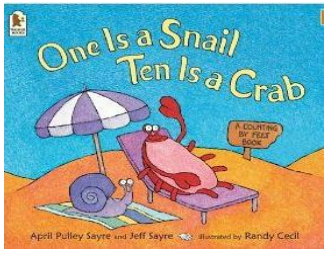

Eric Carle
The Very Busy Spider

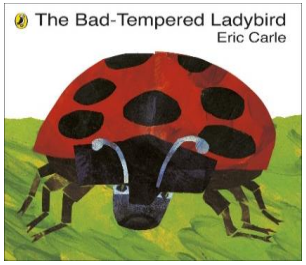

THE DINOSAUR THAT POOPED A PLANET!

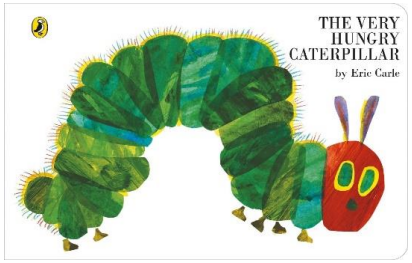

Maisy Goes Camping
A Maisy First Experiences Book
Lucy Cousins

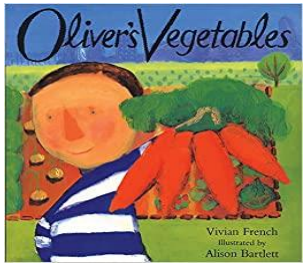

SUPERWORM
Julia Donaldson
Axel Scheffler

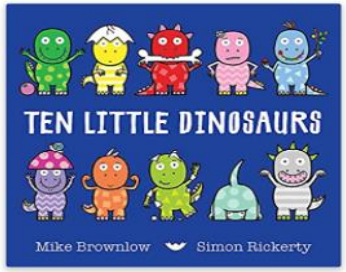

JULIA DONALDSON
LYDIA MONKS
The Princess and the Wizard

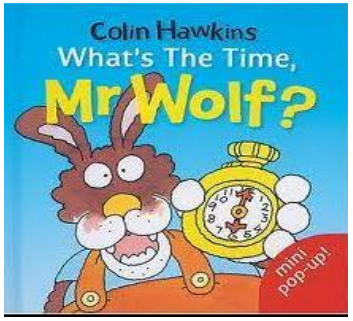

One Is a Snail Ten Is a Crab
A COUNTING BY FEET BOOK
April Pulley Sayre and Jeff Sayre
Illustrated by Randy Cecil

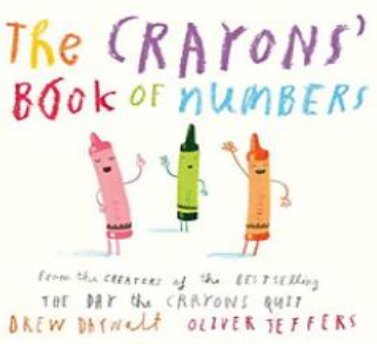

The Bad-Tempered Ladybird
Eric Carle


THE VERY HUNGRY CATERPILLAR
by Eric Carle


Oliver's Vegetables
Vivian French
Illustrated by
Alison Bartlett


TEN LITTLE DINOSAURS
Mike Brownlow
Simon Rickerty


Colin Hawkins
What's The Time, Mr Wolf?
mini pop-up!


The CRAYONS' BOOK OF NUMBERS
THE DAY the CRAYONS QUIT
DREW DAYWALT
OLIVER JEFFERS

White Rose Maths App

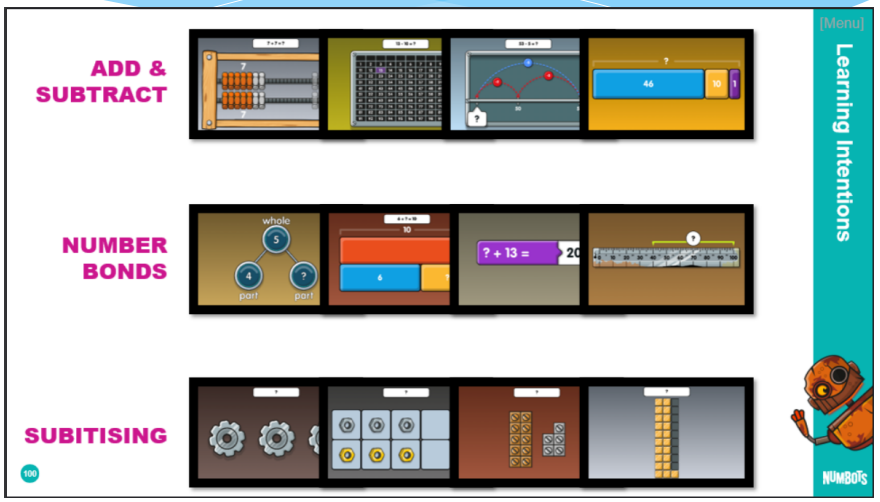




White Rose Maths app available – 1 minute maths games
https://whiteroseeducation.com/1-minute-maths#download

Numbots







- Fun and engaging
- Supports learning of addition, subtraction, number bonds and subitising
- Collect trophies and badges
- Compete with friends
- Challenges at appropriate level

Login details have been sent home. Please speak to your class teacher if you have not received this.

Number Talks

Number Talks encourages mathematical thinking and reasoning.
https://nrich.maths.org/14005

Number Talks

Recognising, creating and describing patterns with numbers



Children often enjoy saying how they see something differently from someone else.

Adults could show interesting arrangements of objects and invite children to talk about the numbers they see.

The Activity
Arrange five large magnets on a tin tray and confirm that everyone sees five. Ask, 'What numbers can you see hidden inside five?' Collect different views. Turn the board away to rearrange, show briefly and ask, 'How do you see them now?'

Encouraging mathematical thinking and reasoning:

Describing
Can you tell me how you saw them?
Did anyone see them differently? How did Lucas say he saw them?

Reasoning
How did you know how many there were?
Does this way make it easier to see how many there are? Why did you find it easier?

Opening Out
Has anyone got a quicker way of counting?
Can you arrange your counters so that you can quickly see how many there are?

Recording
Can you copy this pattern with your counters?
Can you record this by drawing or stamping or with stickers?

Make it practical and fun!

















How you can help at home

The most important thing you can do is be positive about maths!

Number recognition and formation

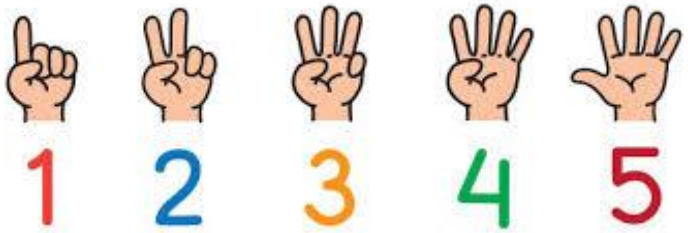
- Model number writing and reading in different ways: Lists, tracing, birthday cards, buses, front doors, recipes, in books, phones
- Number hunts – hide numbers for them to find or ask, can you find 2 cars, 4 teddies.
- Write numbers in sand/on the carpet/paint, make numbers with play dough, on a whiteboard, on paper, post it notes, on a tablet



How you can help at home?

Counting:

- Practise counting in ones, forwards and backwards to 20.
- Sing counting songs and rhymes
- Sorting socks to make pairs, counting them in twos and talk about odd and even numbers.
- Set the table. How many plates do we need? How many knives and forks are there altogether?
- Count everything! Cars, steps, dogs, leaves.
- Have a treasure hunt – can you find 5 twigs / 10 leaves



How you can help at home?

Games:

- Play board games, dice games, snap, pairs, dominoes, hopscotch, skittles.
- Play football – how many goals do you think you will score. How many more do you need? How many did we score altogether?
- Jigsaw puzzles are excellent for spatial reasoning, planning skills as well as helping their fine motor skills.









How you can help at home?

- Use the correct language especially for shape, positions and measuring such as for height we use taller and shorter not bigger and smaller.
- Talk about time and sequence your day – first we had breakfast, then went to the park and after we went home
- Encourage children to help in the kitchen exploring weight and capacity
- Find opportunities for children to handle and experience real coins, talking about their value
- Giving children the opportunity to practically investigate fractions such as cutting up sandwiches

How you can help at home?

* **The Coming Up Next Week newsletter will let you know what we are doing in maths the following week.**

* Maths Homework will start being sent home from the Spring Term. These will be games to play with your child so hopefully fun!



Useful websites

https://www.topmarks.co.uk/maths-games/3-5-years/counting - Maths games

https://www.mathsisfun.com/ - A range of maths games.

https://whiteroseeducation.com/ - maths curriculum resources and support for parents.

https://www.bbc.co.uk/cbeebies/games - The games cover the whole curriculum and are tablet friendly.

http://www.crickweb.co.uk/ - Activities focusing on Maths and Literacy. Free to use

https://www.pinterest.co.uk/ - While Pinterest isn't a learning website as such, it is nonetheless an absolute treasure trove of resources if you would like an activity for your child that isn't screen based. Pinterest has so many investigative activities that you can make at home, some beautiful art activities and fine motor activities. Type 'eyfs' or 'for kids' after your search. For example 'numbers to 10 for kids' or 'shape patterns for kids'

https://www.youtubekids.com/ You can search for a wide range of videos on number bonds, shapes, counting, as well as phonics, Alphablocks, Number Jacks etc. 'Art for Kids' and 'Cosmic Yoga Kids'.

NumBots | Motivational maths practice for schools and families. You will need login details for access. Please speak to your class teacher if you need another copy.





Any questions?

