Early Maths Workshop for Parents





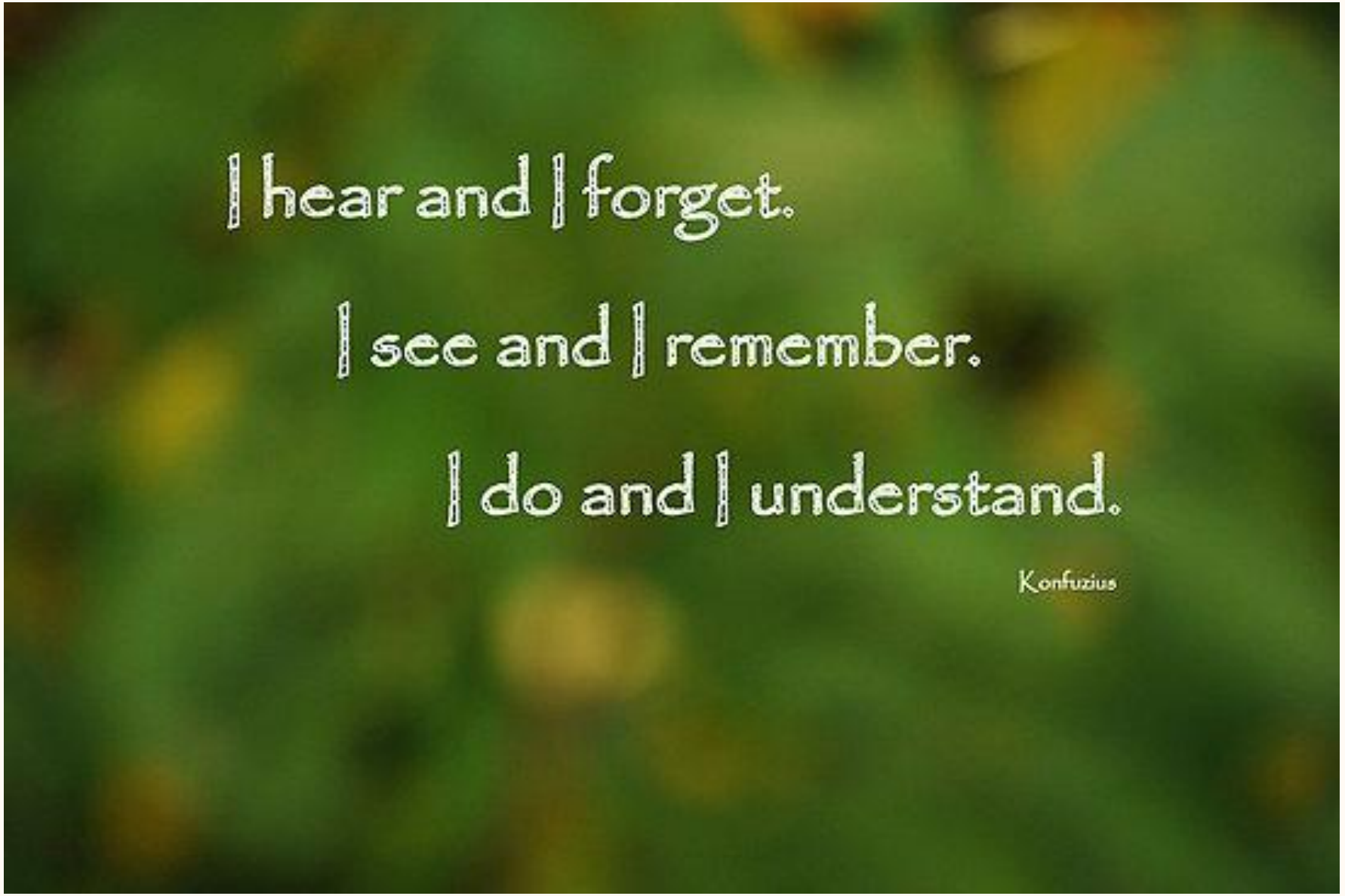


Aims for the workshop

- To gain an understanding of Mathematics in the Foundation Stage.(EYFS)
- To become aware of the importance of understanding number.
- To show parents how we teach mathematics in Reception.
- To provide ideas for parents throughout the workshop of things that you can do at home.

How has Mathematics changed?

- We know much more about how children learn e.g. hands on, practical, visual, through play.
- There is greater emphasis on understanding rather than rote learning of simple processes.
- Learning is not a race; everyone's brain works at its own pace. It is important that children are secure with the number system.


I hear and I forget.
I see and I remember.
I do and I understand.
Konfuzius

What is Mathematics Mastery?

Success for all pupils

Based on research and evidence

Problem solving is at the heart

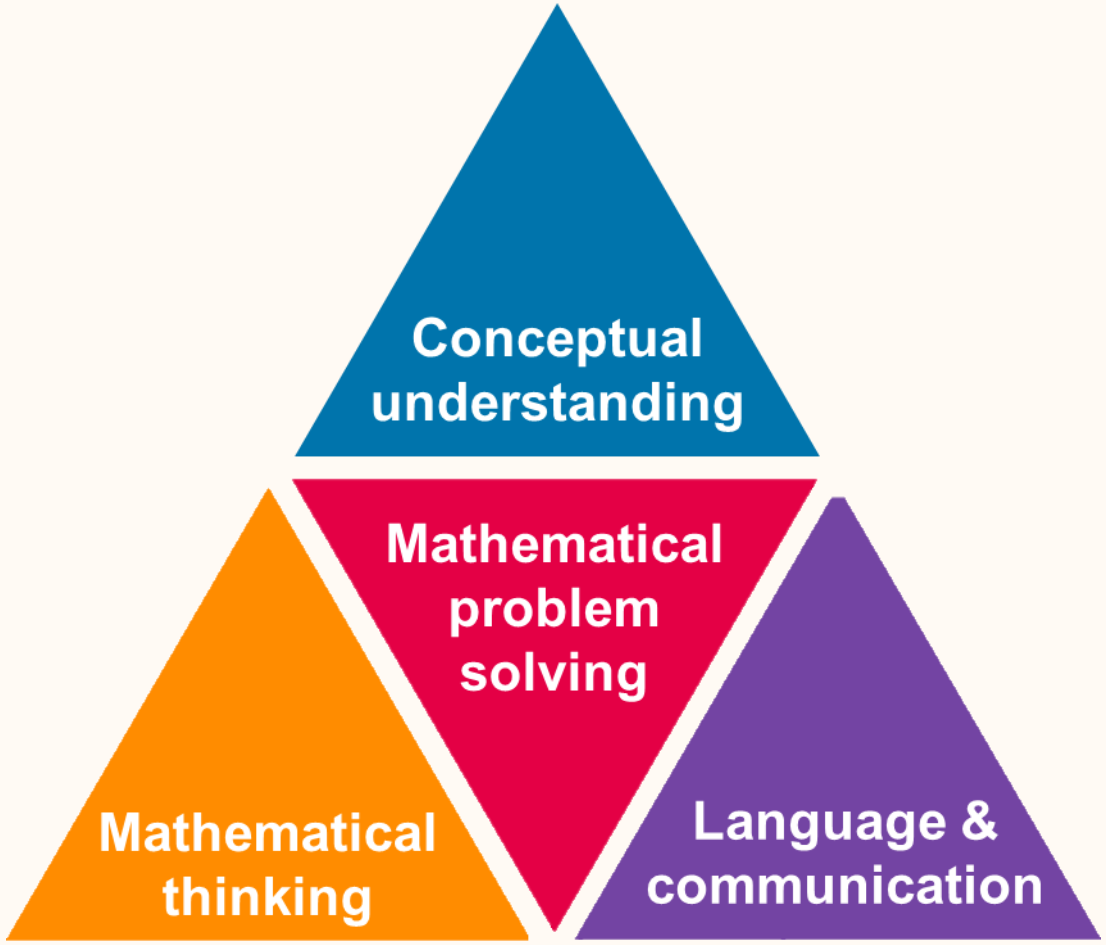
Focus on talk and reasoning about mathematics

Focus is on depth, not acceleration

Depth not acceleration

What do we mean by depth?

How do we deepen understanding?

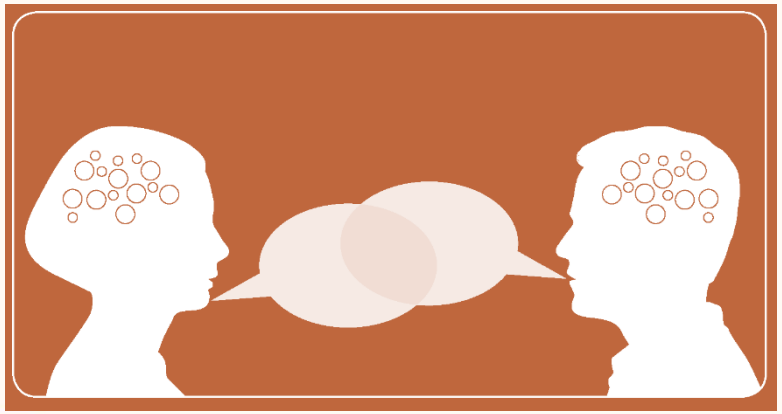


Language and Communication

Key Words:

first	subtract
then	take away
now	equation
less	number line
represent	number track

Can you say that in a full sentence, please?



Mathematical Thinking

What do you think would happen if…?

Do you think … would always happen?

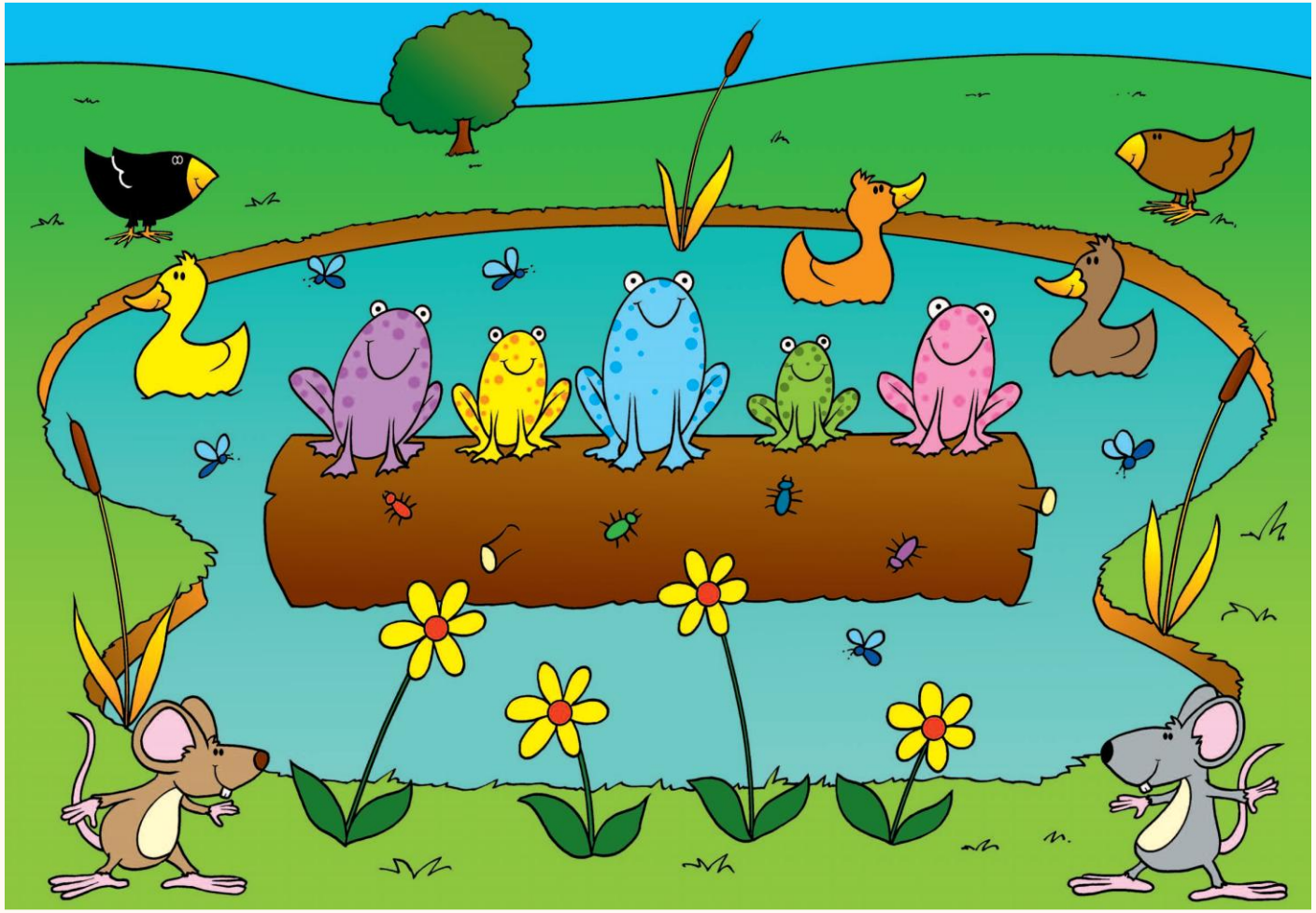
What's the same? What's different?

What pattern can you see? How would it continue?

How do you know?

What else could go in this set? What couldn't?

Big Picture



What maths can you see?





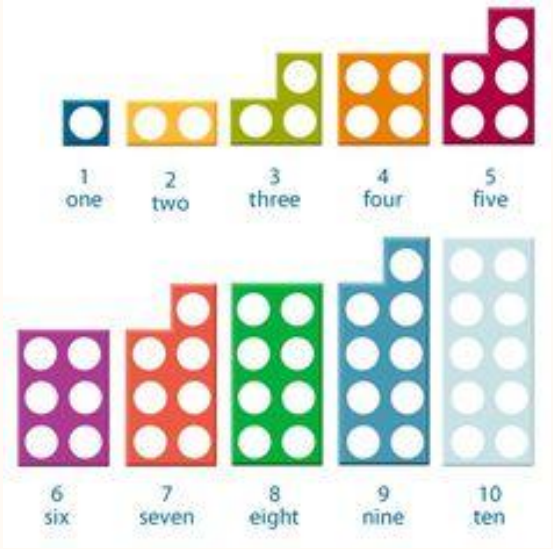
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Early Years Foundation Stage Maths

- Consists of two parts

1) Number.

2) Numerical Patterns.





Number – The Early Learning Goal



- ELG: Number Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number;

At the end of YR the children need to be able to achieve this statement to get the 'expected' level. If they are below – then they will get 'emerging'.

Numerical Patterns – The Early Learning Goal

- 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.

At the end of YR the children need to be able to achieve this statement to get the 'expected' level. If they are below – then they will get 'emerging'.

How do we teach Mathematics in the Foundation Stage?



- Practically with manipulatives.
- Through play with real objects.
- Through songs and rhymes.
- Through books, I-pads and Smartboard.
- Modelling good, accurate vocabulary.
- Through questioning.
- Through adult led personalised activities where children can be supported and extended.
- Through short carpet inputs.
- Through questioning ‘I wonder what / if….?’
- 1:1 interventions.

Weekly Mathematics

In Reception

- **Carpet inputs** to introduce, teach and reinforce the weekly theme, extend the children or tackle any difficulties.

- **Magical Maths** – daily quick fire number based focus.

- **Adult led activities** which every child does at some point during the week. This is directed by the teacher or teaching assistant and can be in the outside area, on the computer, in the role play, construction, sand or other areas or working at a table. This learning is personalised for the child at their level and extends them further.

- **Enhanced and Continuous Provision** - Throughout the week we provide opportunities for children to explore or apply what they have learnt independently, in the inside and outside environments.

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Understanding the value of number.



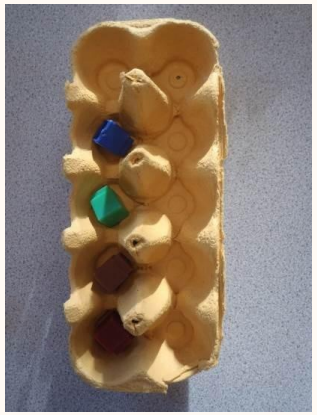








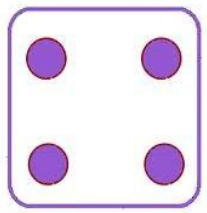












In Focus: Numbers 1 to 10

1. Count numbers reliably (using objects, images, sounds)
2. Create representations for numbers.
3. Create representations for numbers 1-10
4. Place numbers 1-10 in order
5. Recognise numerals 1- 10
6. Explore one more and one less
7. Addition and subtraction of numbers 1 – 10
8. Understand the concept of 0

One to one correspondence.

Children are pushed onto the abstract too quickly and don't have a secure understanding of the process or concept.





Number fans



- How many times did I bang the drum?
- If I added 5 more how many would there be?
- Show me a 2 digit number.
- Show me the largest 3 digit number you can.
- Show me the lowest 3 digit number you can.



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Six Fundamental Concepts of Maths



Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents



Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other



Composition

Understanding that one number can be made up from (composed from) two or more smaller numbers



Pattern

Looking for and finding patterns helps children notice and understand mathematical relationships



Shape and Space

Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking



Measures

Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

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Cardinality and Counting

- Understanding that the cardinal value is the last number that you count, using 1:1 correspondence



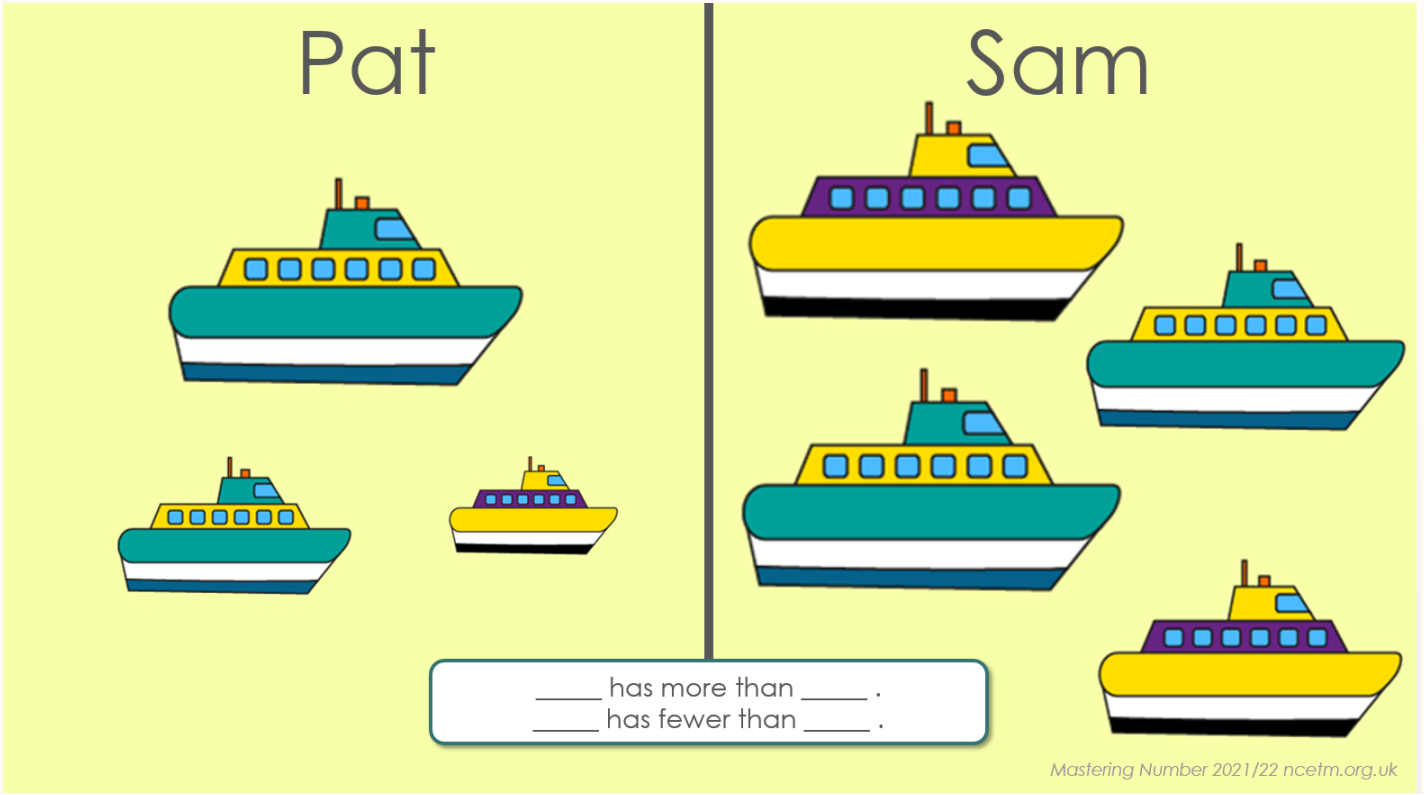
Cardinality and Counting

- Bunny Ears!



Comparison

- Looking at and identifying which numbers are worth more and which are worth less



Composition

- When we can see that numbers are made up of different numbers



Composition – Exploring composition of 5



Pattern

- Looking for and identifying patterns can help children understand mathematical concepts





Shape and Space

- Understanding what happens when shapes move, or combine with other shapes

Measure

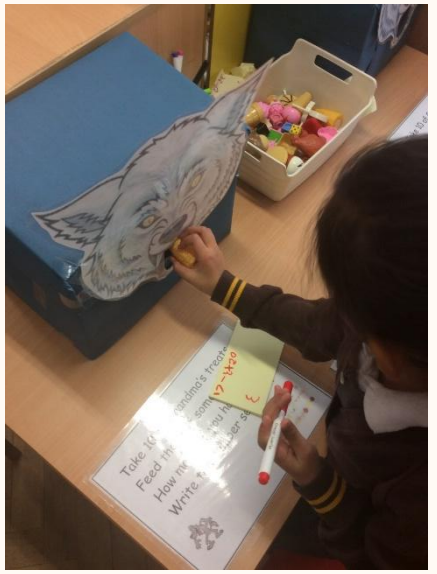
- Comparing different aspects such as length, weight and volume

How you see these skills in EYFS?

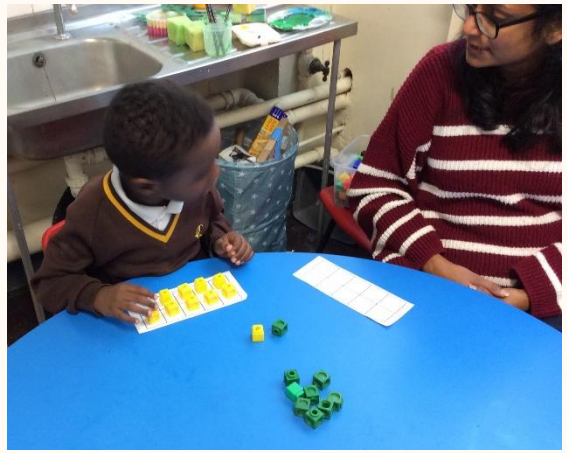
- These 6 fundamental skills are taught in a variety of different ways….





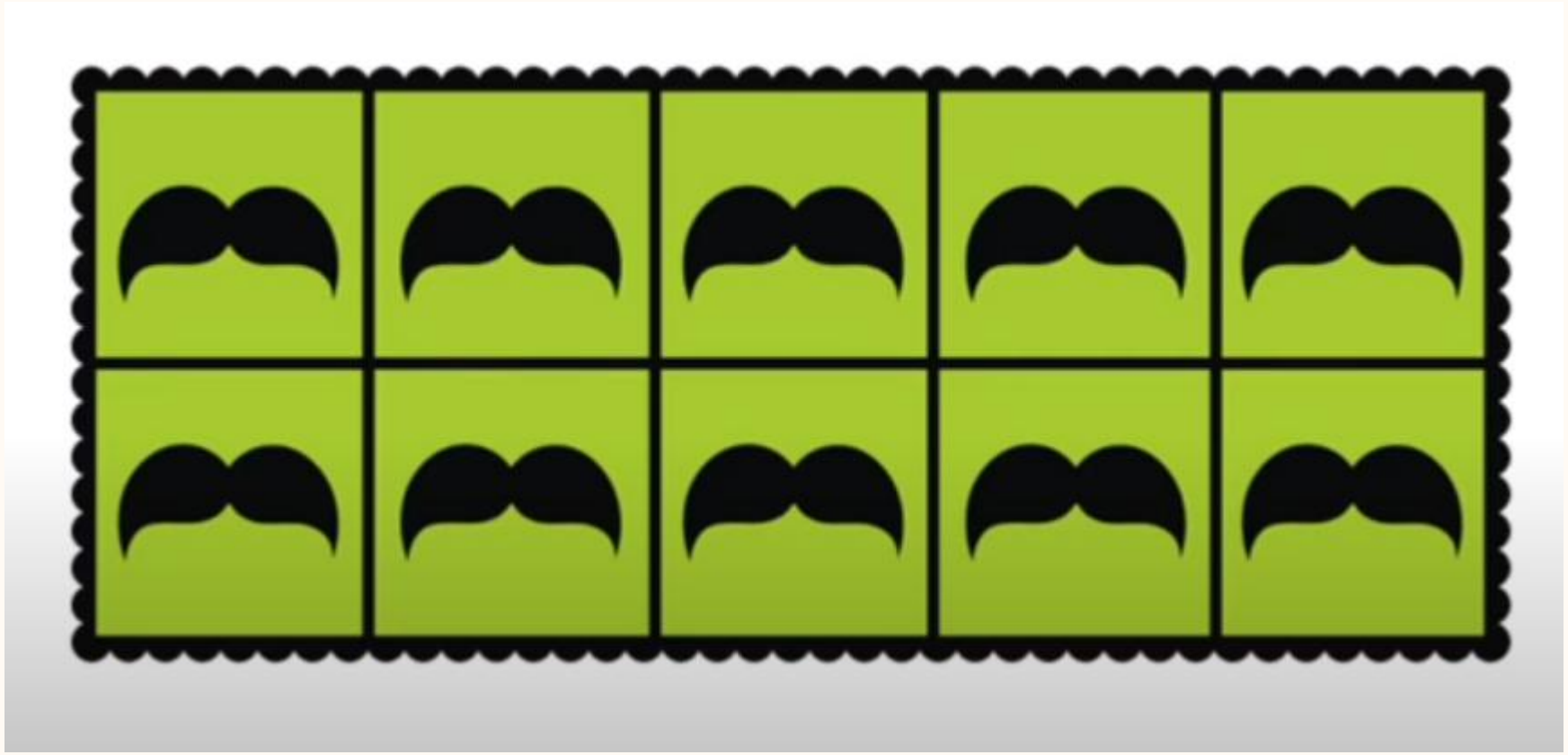






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Subitising



What can you see and explain the reason why?

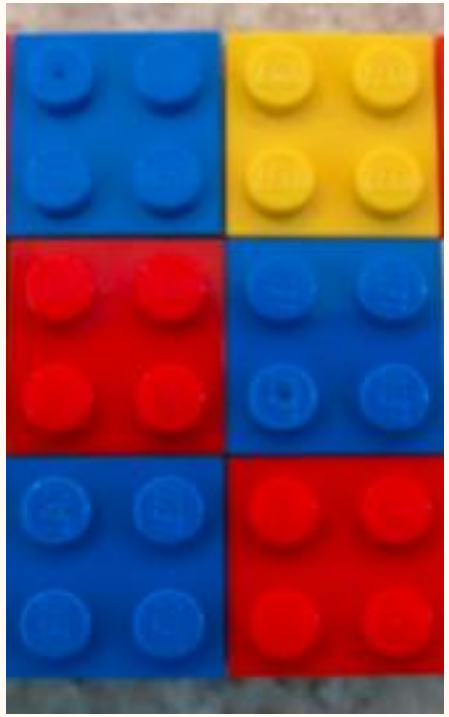
https://www.youtube.com/watch?v=7909h7BcJ8w&t=31s



How many and how do you know?



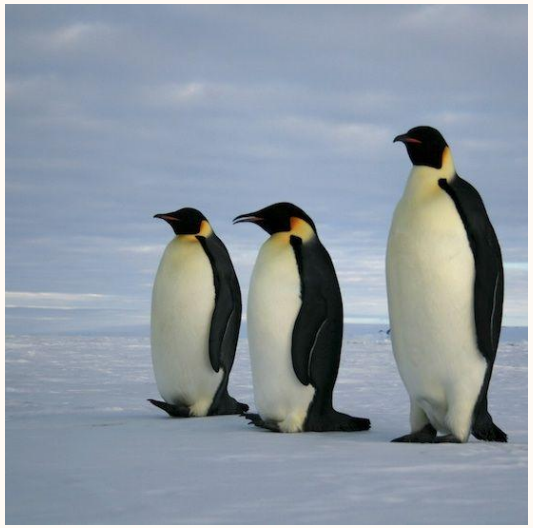






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Estimating

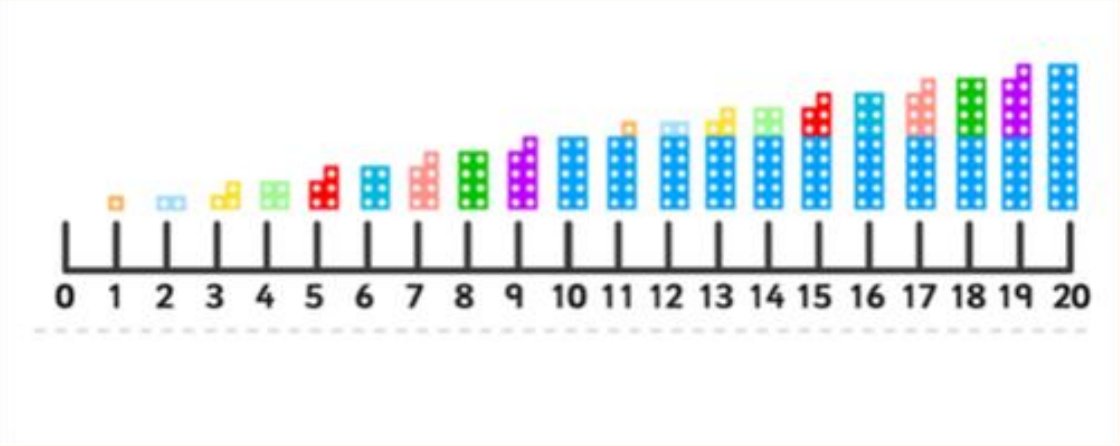




Once they can estimate the number of smaller groups – they can make sensible estimates of larger groups.

Using number lines



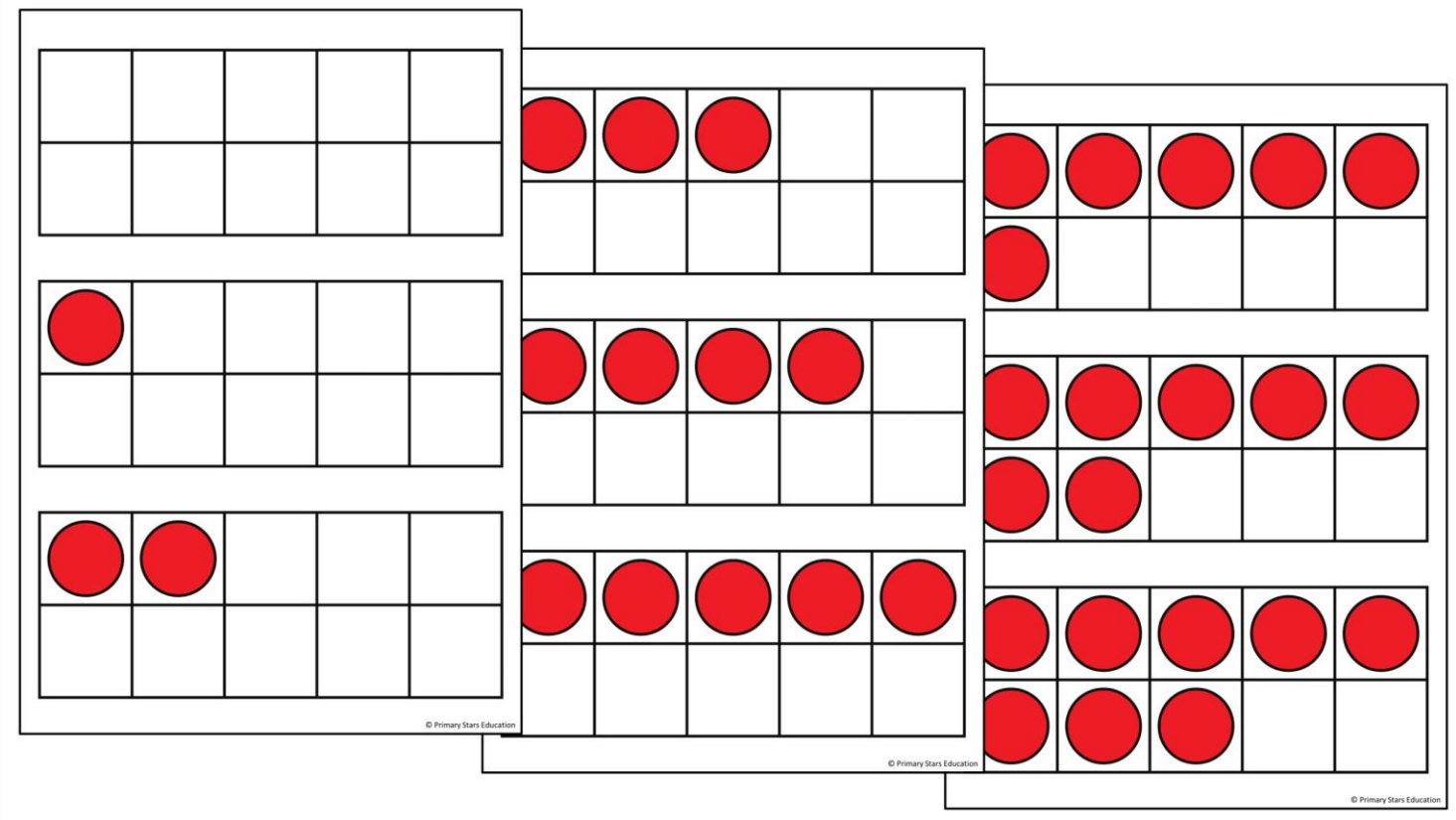




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10 Frames

We use 10 frames right from the start.



Numicon





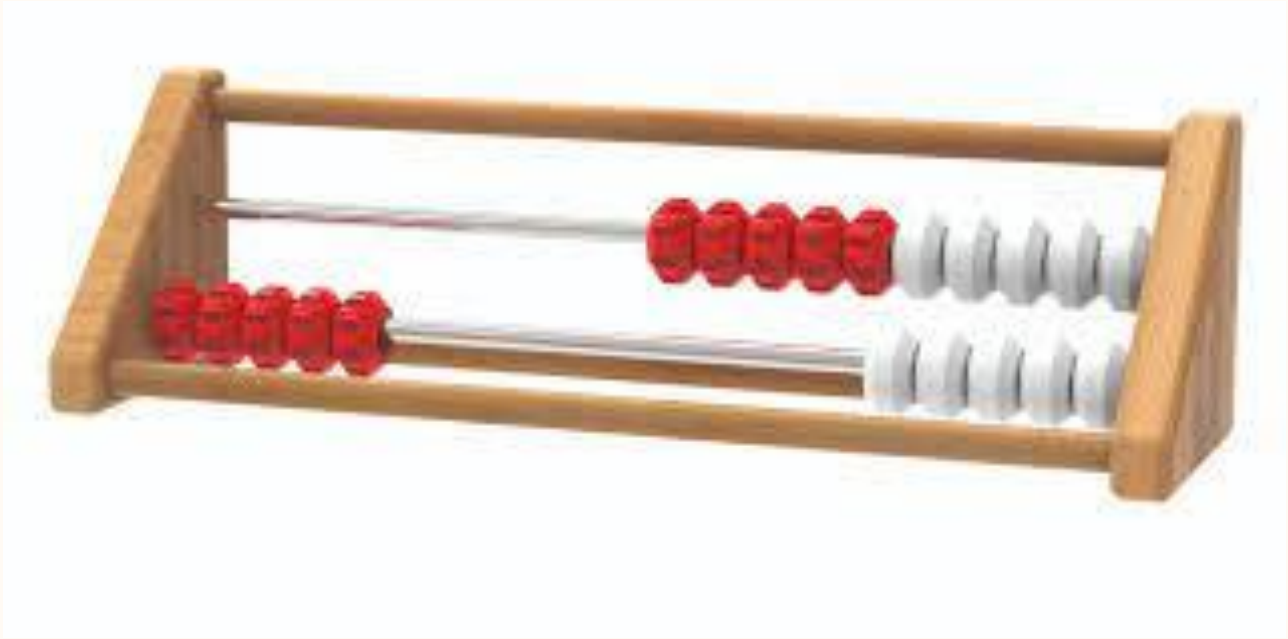


- Counting
- Ordering
- Odd and even numbers
- One more than

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Rekenreks

A rekenrek is a counting frame, similar to an abacus. It has ten beads on each row, five white and five red which supports the development of number sense.





Early stages of calculation

Not recorded as a number sentence – practical.











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Calculation with Numicon

- Numicon for number bonds.



- Numicon for adding.



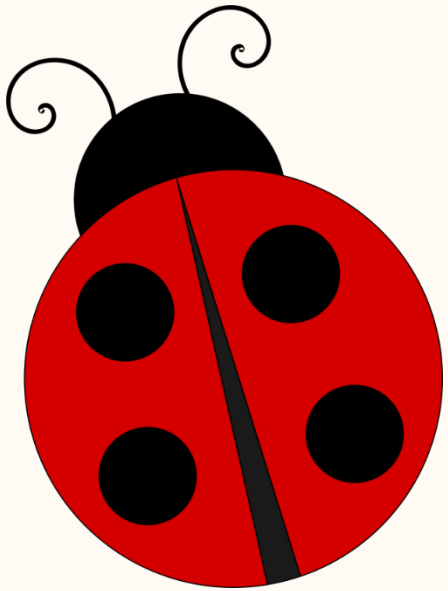
- Numicon for subtracting.

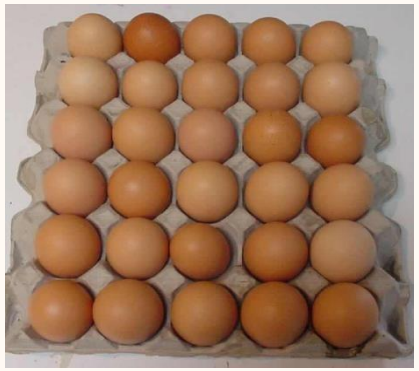


Doubling & Halving and Sharing

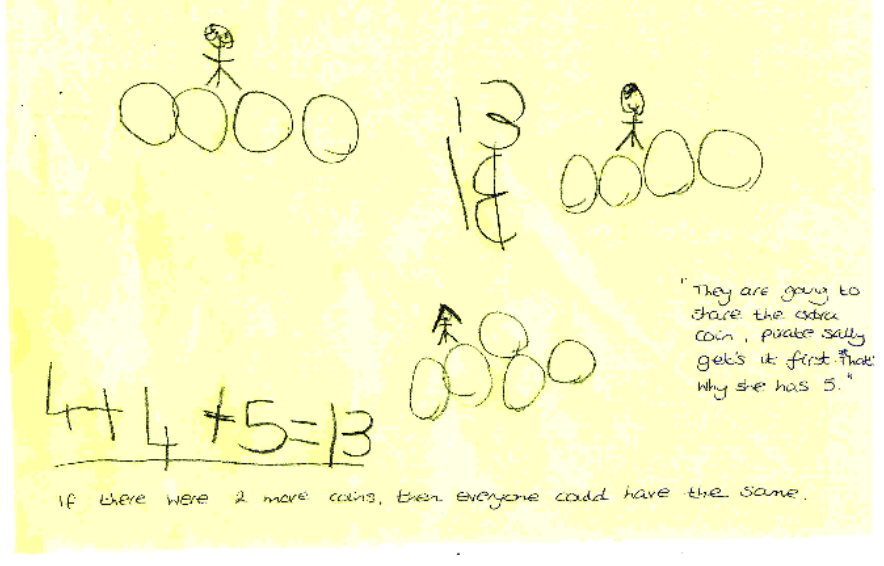






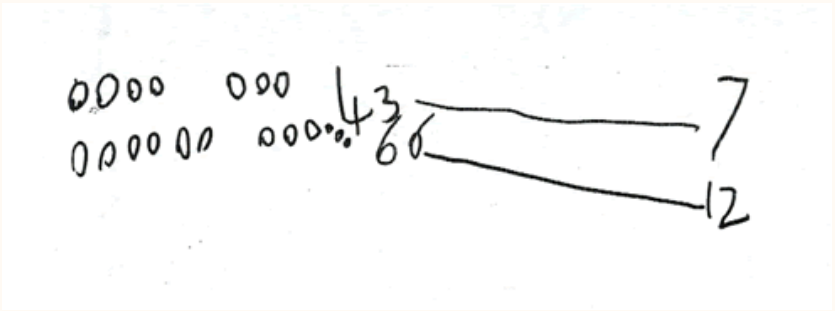


Recording in Maths









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Recording in Maths



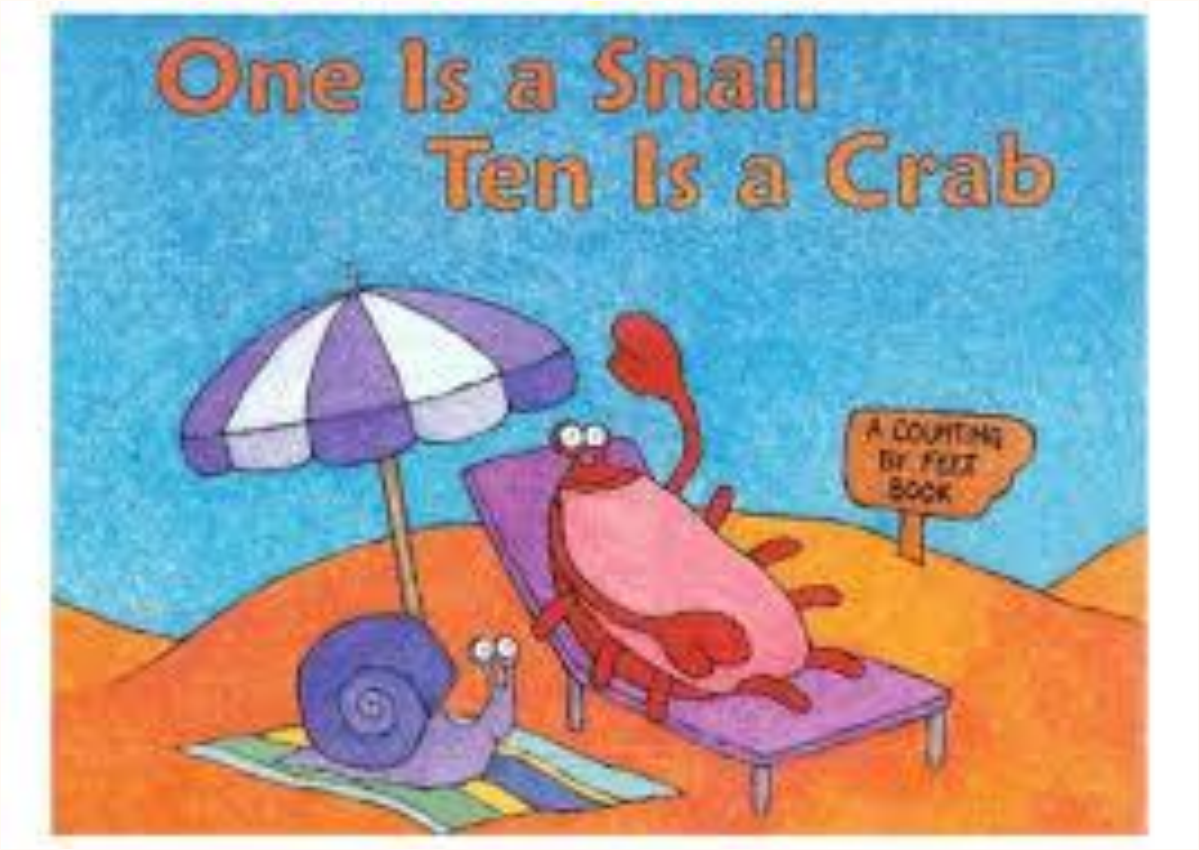


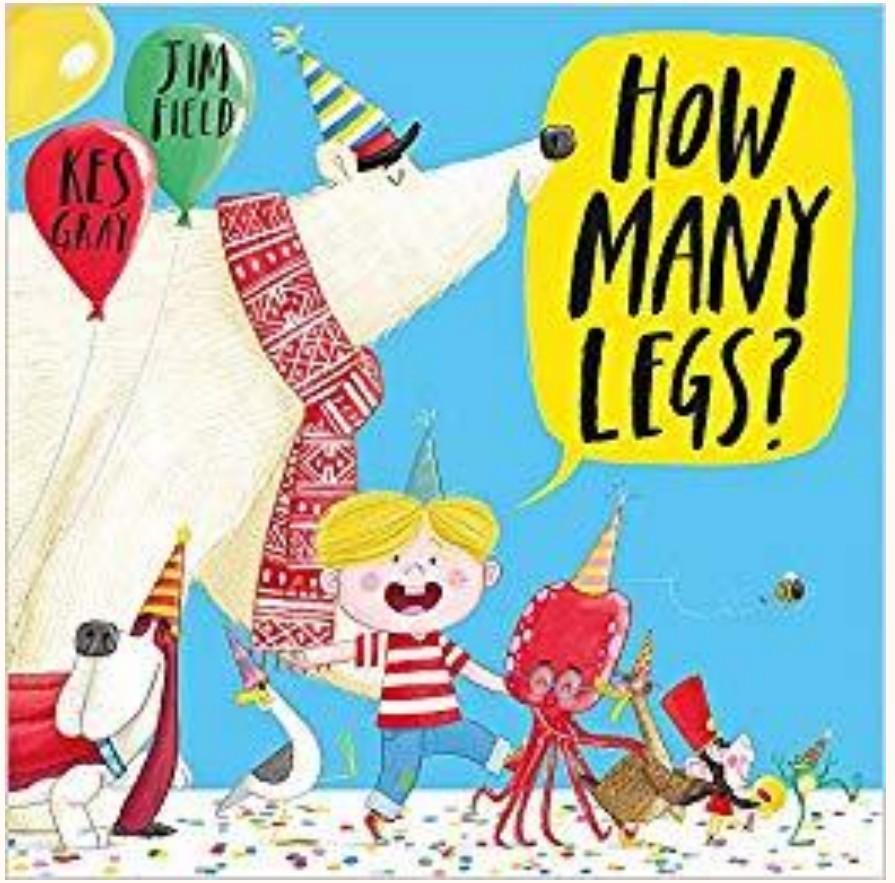




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Problem Solving







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Problem Solving





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Measures - Capacity







Measures - Time







https://www.online-stopwatch.com/eggtimer-countdown/full-screen/

tomorrow

today

yesterday



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Measures - Money







Measures - Length













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Measures - Weight





Shapes – 2D









Shapes – 3D







Positional Language



How can you help at home?

- ✓ Follow the methods taught in school!
- ✓ Make activities practical, turn them into a game.
- ✓ Be positive and give lots of praise.
- ✓ Don't rush your child through the stages - check they have a secure understanding of the basic skills ESPECIALLY number.
- ✓ Check they can apply these skills in different contexts e.g. using money, sharing the sweets, setting the table, recognising numbers at the shops.
- ✓ Use **manipulatives!**
- ✓ Praise children for effort over outcome.
- ✓ Avoid saying things like "I'm useless at maths".

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Using objects in the home













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Look for numbers











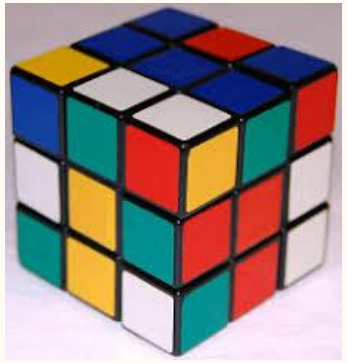


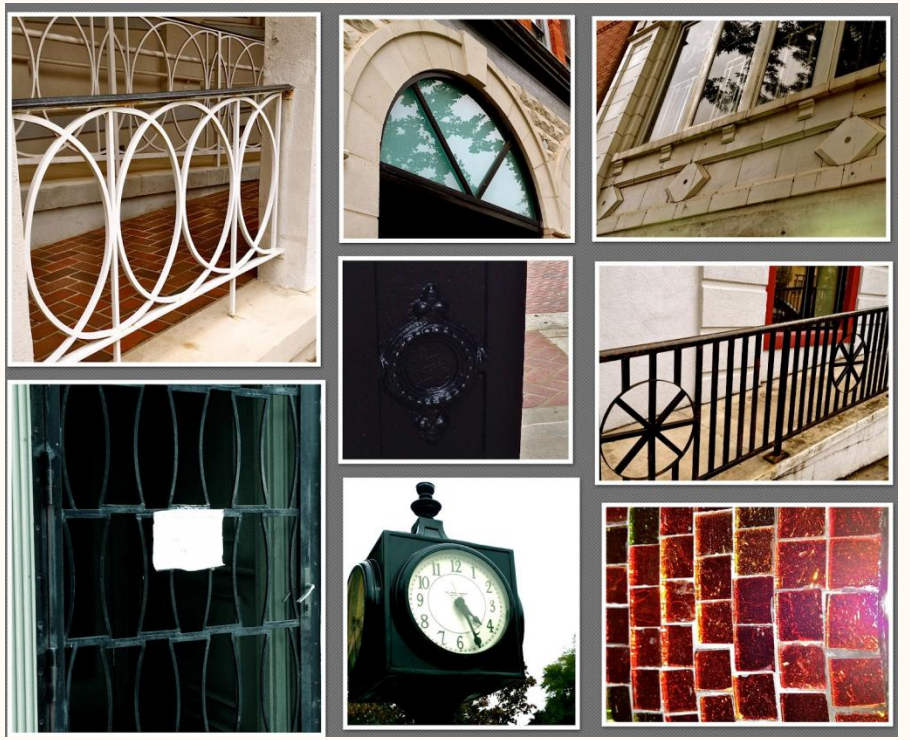
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Look for shapes









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Sharing, doubling & halving food











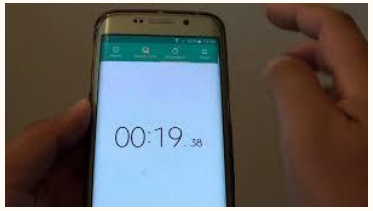
Measuring









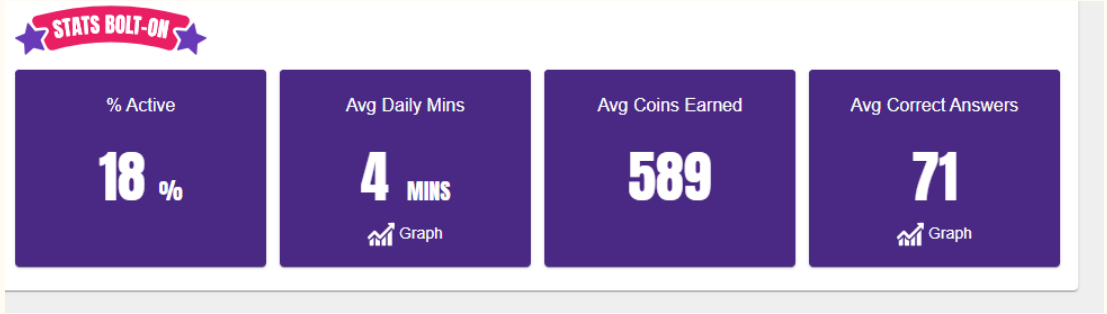






Play Numbots

- ✓ 30 mins max a week per child
- ✓ Class Award for the most stars won over a week!





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Useful Websites

- Nrich Maths - https://nrich.maths.org/early-years
- Weekly NUMBOTS - (All log ins have been circulated)
- Crickweb - www.crickweb.co.uk/Early-Years.html
- Number Blocks - https://www.bbc.co.uk/cbeebies/shows/numberblocks