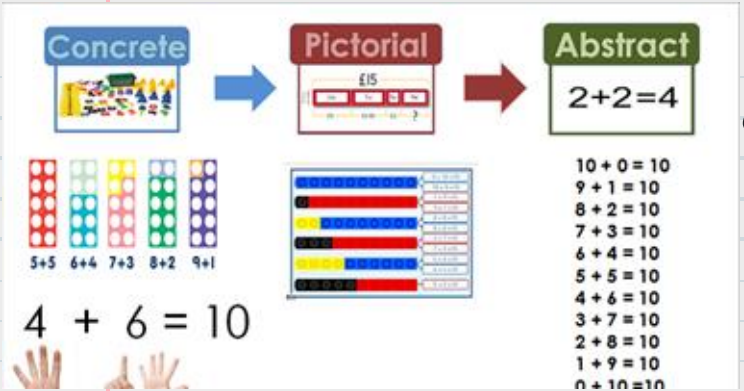
Maths Curriculum Workshop

26/1/23

Mrs Strong & Miss Angel-Farmer

How are we teaching maths in the school?

We have adopted a more concrete, pictorial and abstract approach in order to allow the children to be more proficient in the 5 key areas.



What is concrete, pictorial and abstract?

Concrete resources, also known as manipulatives, are physical objects that children can pick up and manipulate to improve their maths knowledge. Used in maths education, a variety of concrete maths resources can help children to understand the relationship between numbers and the number system.

Pictorial -This stage encourages children to make a mental connection between the physical object and abstract levels of understanding, by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem.

Abstract - Unpicking the maths and using symbols to complete a task.

Mathematical proficiencies



- Conceptual understanding
- Communication with symbols
- Strategic competence
- Logical reasoning
- Fluency

We are now focusing on the 5 Mathematical proficiencies.

Please read through the following slides to see what these are about.



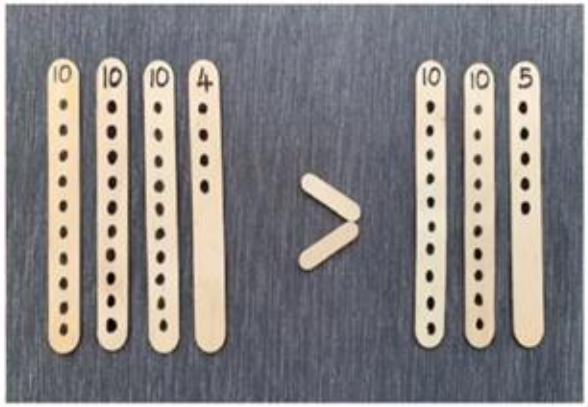


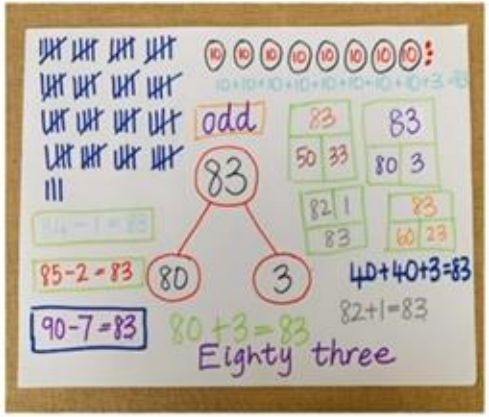
Conceptual understanding





- The use of practical resources to deepen the children's understanding.
- Making connections to real life experiences.





As well as using resources and having first hand experiences in mathematics children also need to make sure they experience concrete, pictorial and abstract approaches.

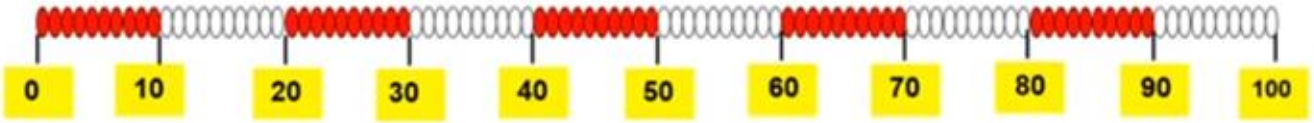
Communication with symbols



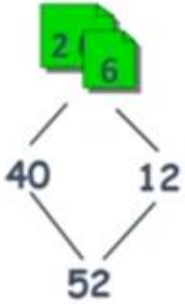


I went to the shop and bought two things costing 28p and 49p. Approximately how much did I spend?

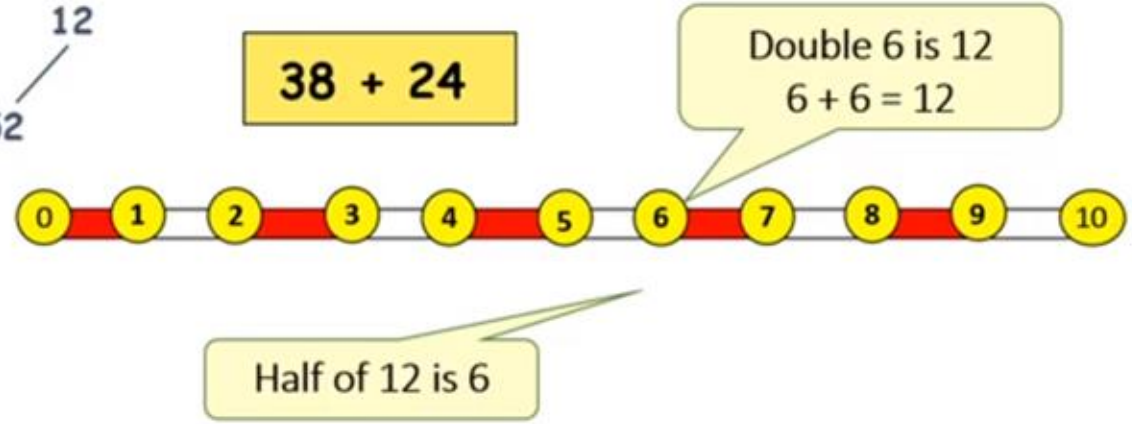




Strategic competence

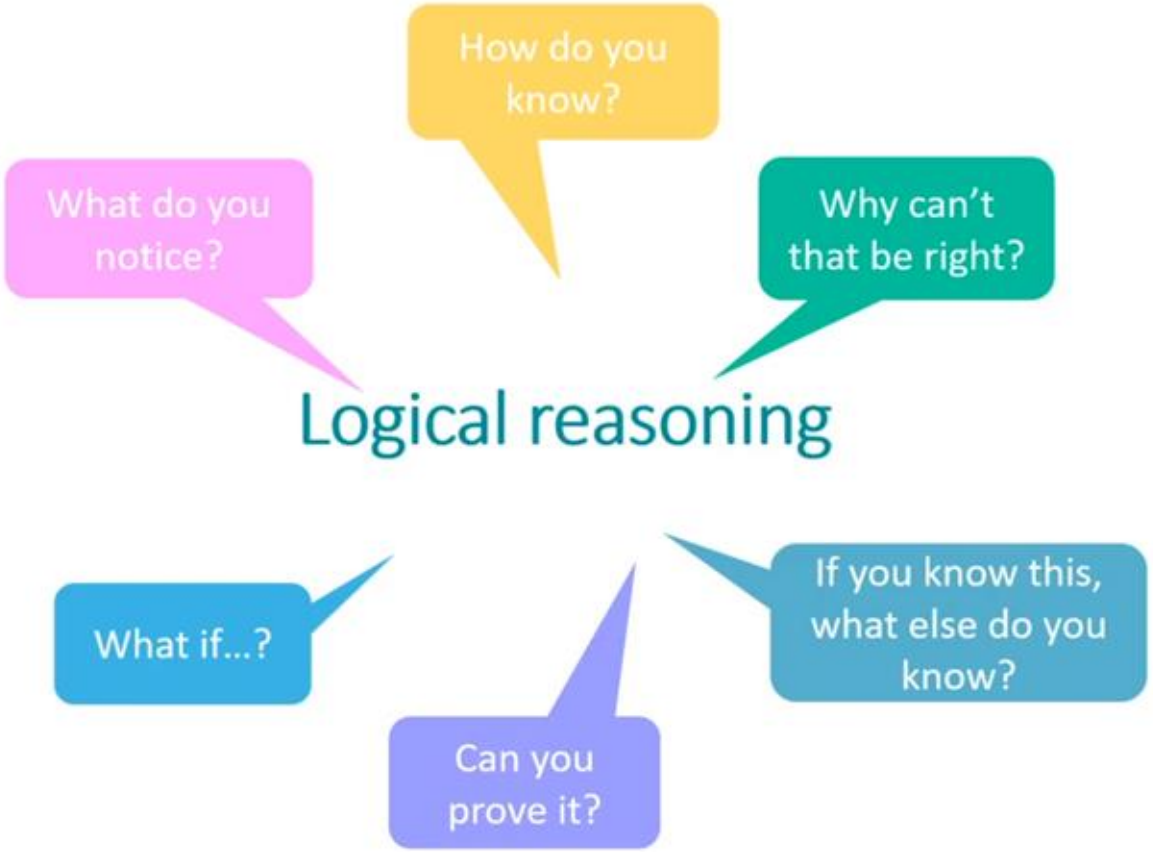


38 + 24



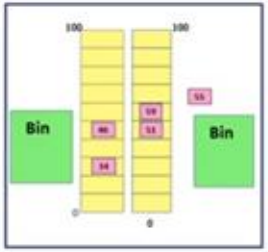
Using a range of resources to show how they have done something.

Although through the years they can develop their mental strategies - children still should use resources where needed.



Asking questions regularly encourages children to think, reason, make connections and use mathematical language.

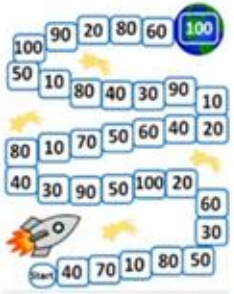
We should model responses when they struggle and the more we ask these questions the more the children will ask them for themselves.



If I know...	then I know...
4 + 3 = 7 5 + 4 = 9	40 + 30 = 70 50 + 40 = 90



Fluency









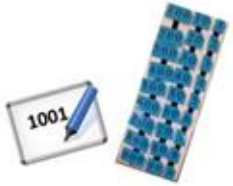
This can be done through games.

You will practise fluency through daily warm ups reflecting on skills taught and through your provision.

Regularly apply number skills in authentic contexts.

Next are some examples of how we may teach your children in school.

Counting in 1s



- What's the greatest number?
- What's the smallest number?
- What are we counting in?
- Count forwards and backwards
- What number is this?
- How do you know?
- What if...?



Number tracks



Counting in 10s



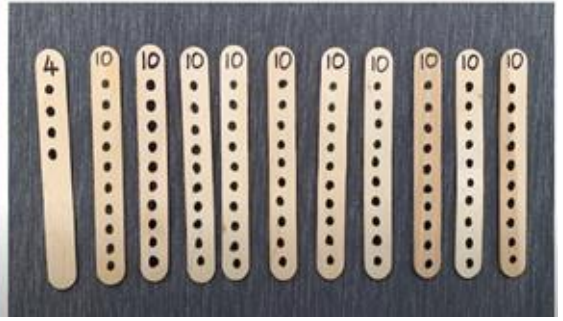


- What's the greatest number?
- What's the smallest number?
- What are we counting in?
- Count forwards and backwards
- What number is this?
- How do you know?
- What if...?



In and off the decade is important.
What was tricky? 102/112.

Counting in tens



Clap and Click Click - Move in 1's Clap move in 10's



Partitioning 2-digit numbers



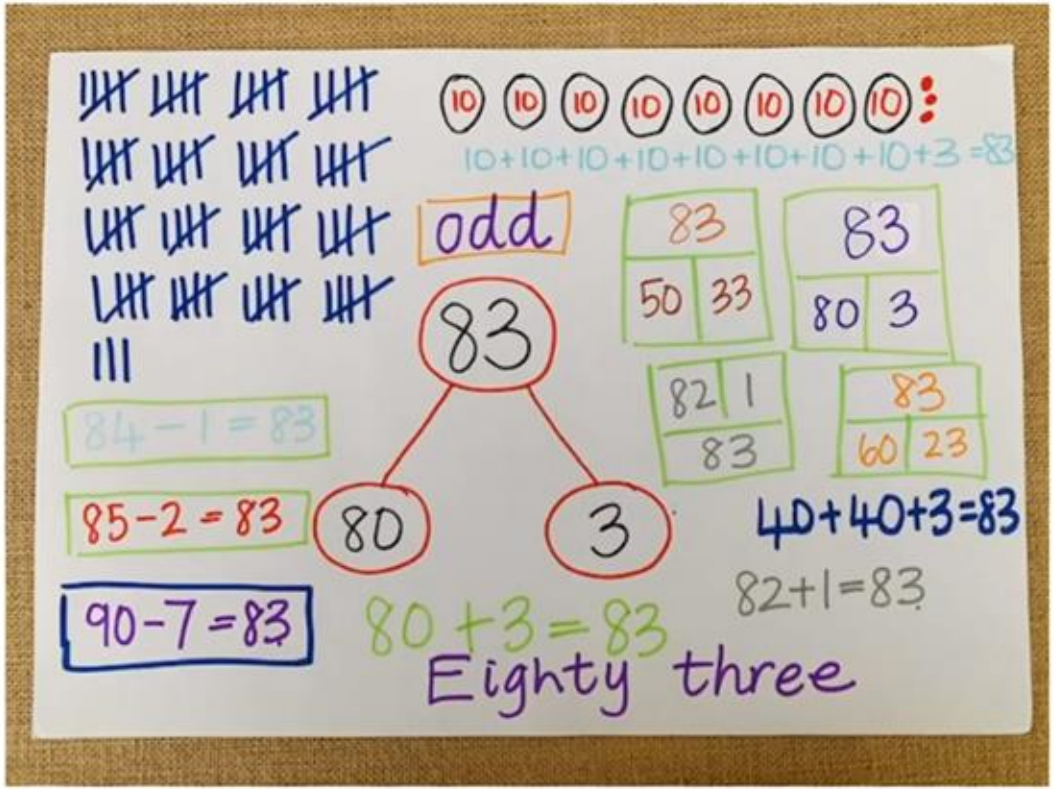
Representing numbers







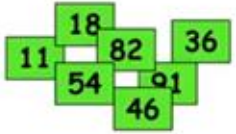
Concrete, Pictorial, Abstract

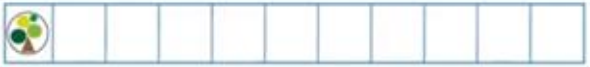


Counting in 2s & odds and evens









Odd and even numbers





Bonds of 10



If I know…then I know….



Relationships



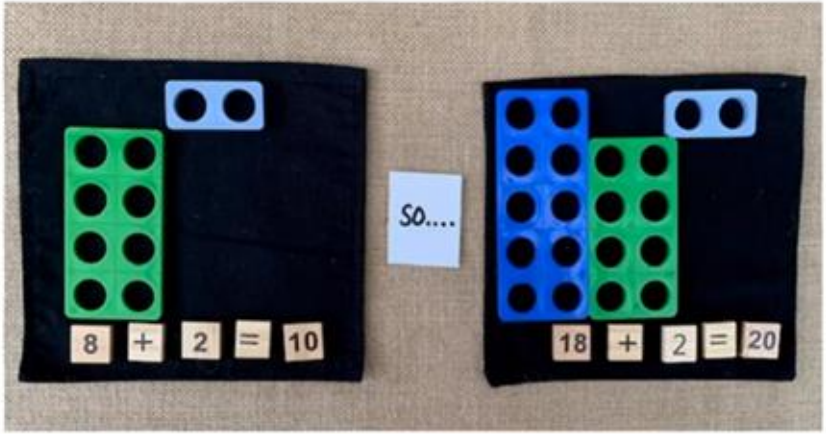
$60 + 40 = 100$

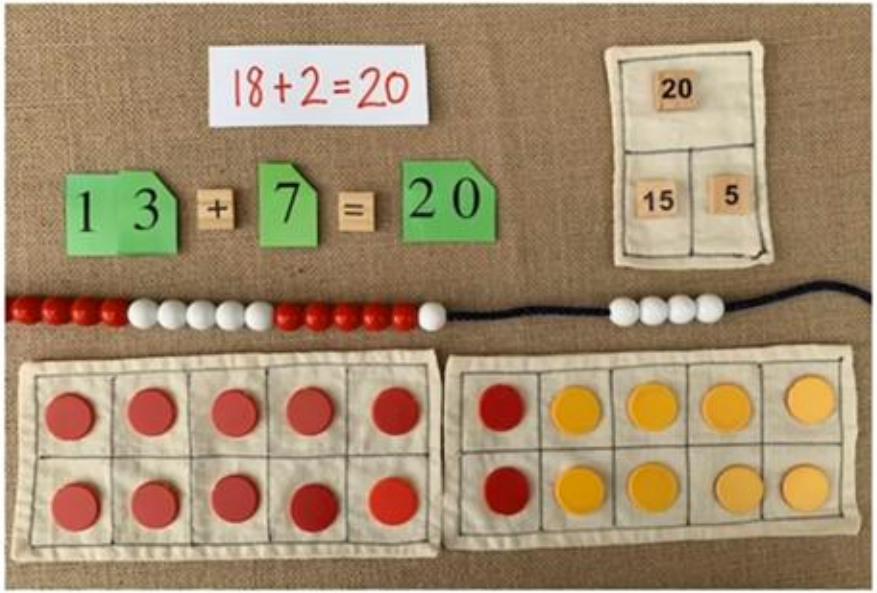
$40 + 60 = 100$

$100 - 60 = 40$

$100 - 40 = 60$

Bonds of 20



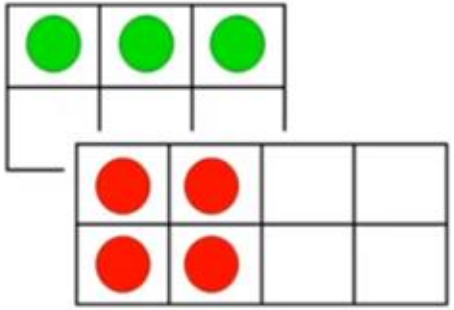


14 + 6 = 20
6 + 14 = 20
20 – 6 = 14
20 – 14 = 6

Number facts - bonds within 10

Bonds of 4, 5, 6, 7, 8 and 9





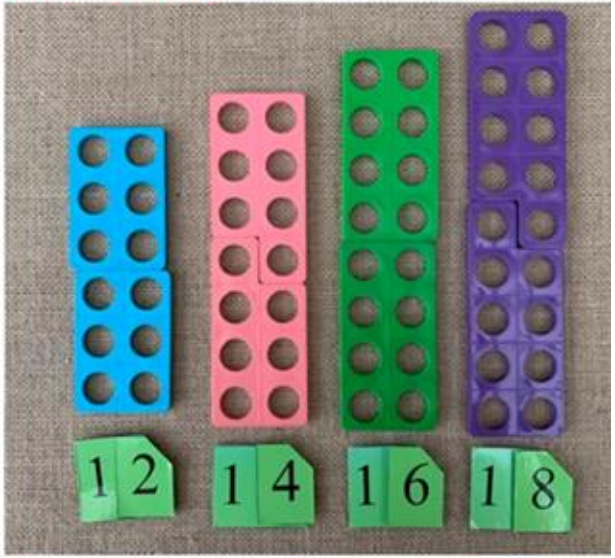




Doubles and halves to 10



Doubles to 20



Captain's Facts!



10 - hat

11 - belt

12 - hook

13 - eye patch

14 - legs

15 head

16 body

17 arms

18 sword

19 parrot

20 boots

Roll the dice twice.
Add together the numbers
Begin to make your pirate!

Halves and quarters



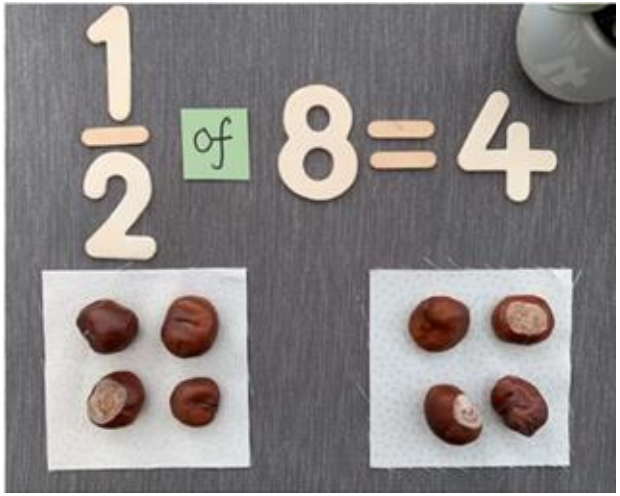











1/2 of 8=4


Share the money equally between the four friends
Ruby
Tom
Leo
Jess

Tables facts on the stick



- What's the greatest number?
- What's the smallest number?
- What are we counting in?
- Count forwards and backwards
- What's the midpoint?

Multiplicative relationships



3 x 5 = 5 x 3





In Upper PS2 + 3

This is used for enhanced provision and intervention groups.

This is a programme that is only used in school.



Blooket

This is an online platform that can be used to reinforce skills in the classroom.



Useful interactive websites

Polypad.org.

Toytheatre.com

Topmarks.com

Blooket.com