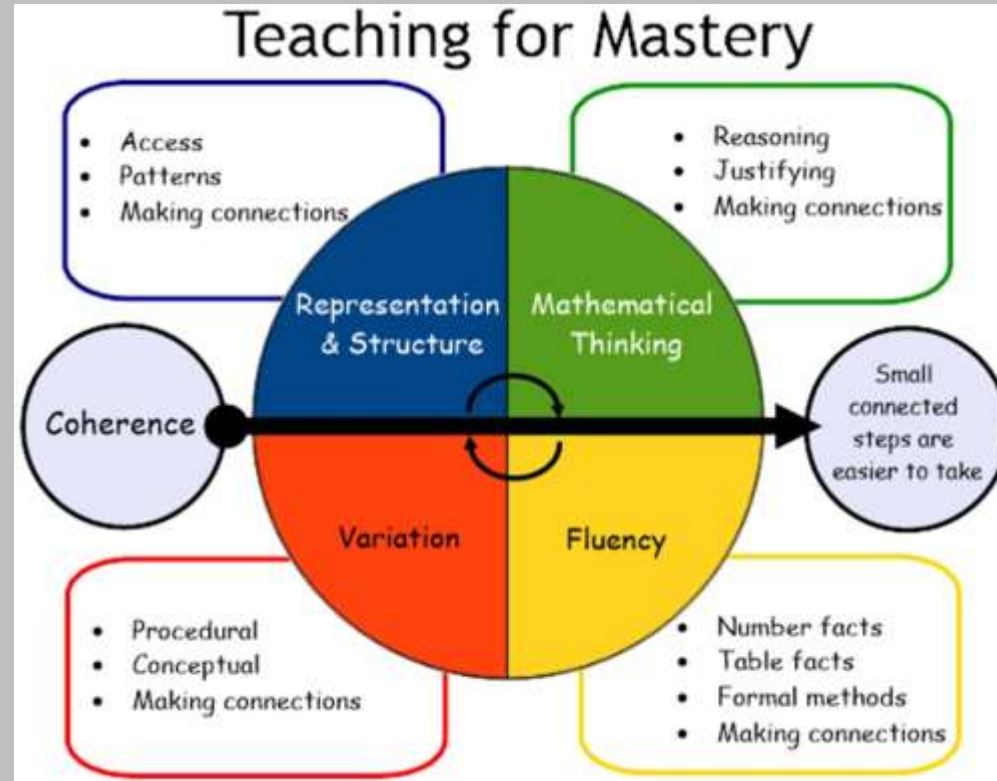


Mastering maths:  
Pupils acquiring a deep, long-term, secure and adaptable understanding of the subject.



C - Concrete

P - Pictorial

A - Abstract

## The CPA Approach



CONCRETE -  
using physical objects  
to solve maths problems.



PICTORIAL -  
using drawings  
to solve maths problems.

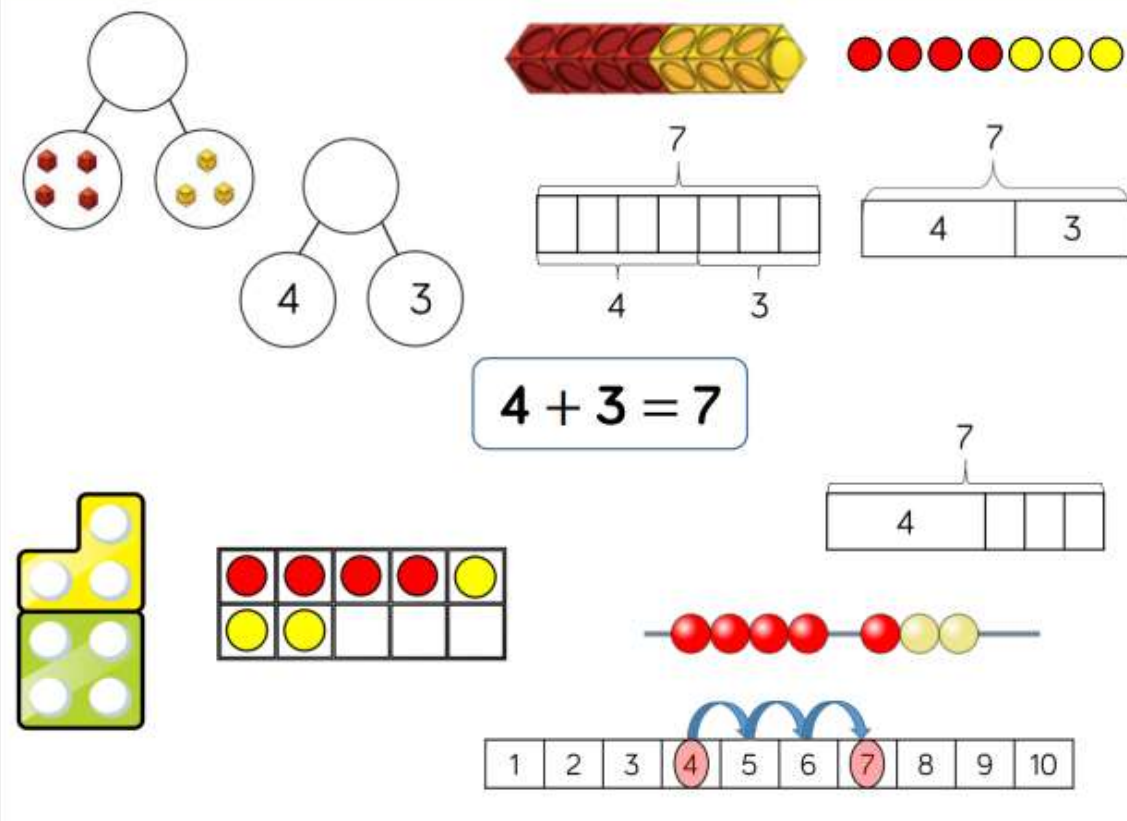


ABSTRACT -  
solving maths problems  
using only numbers.

# Year 1 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value (within 10)					Number Addition and subtraction (within 10)					Geometry Shape	Consolidation
Spring	Number Place value (within 20)		Number Addition and subtraction (within 20)			Number Place value (within 50)		Measurement Length and height		Measurement Mass and volume		
Summer	Number Multiplication and division		Number Fractions		Geometry Position and direction	Number Place value (within 100)		Measurement Money	Measurement Time		Consolidation	

# Resources Year 1

Skill: Add 1-digit numbers within 10	Year: 1
 <p><math>4 + 3 = 7</math></p>	<p>When adding numbers to 10, children can explore both aggregation and augmentation.</p> <p>The part-whole model, discrete and continuous bar model, number shapes and ten frame support aggregation.</p> <p>The combination bar model, ten frame, bead string and number track all support augmentation.</p>



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# Expert help at your fingertips

We are a group of teachers and mathematicians, dedicated to developing maths education for everyone.



## 1-minute MATHS

KS1!

- Subitising
- + Addition
- Subtraction
- X Multiplication
- ÷ Division



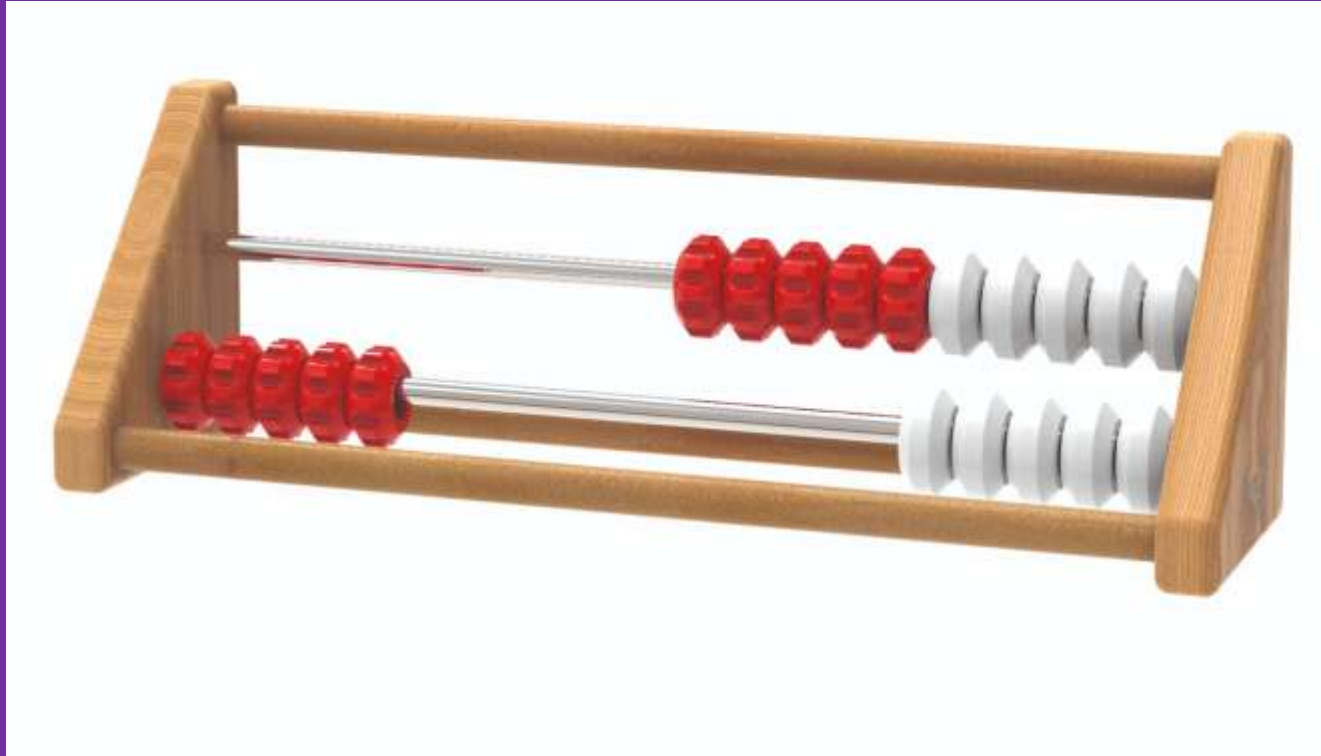
White Rose Maths

# Maths with Michael

Has maths changed?



# Mastering Number Programme



## Mastering Number



## at Russell Street School



At Russell Street School we are actively participating in the NCETM Mastering Number Work Group.

Reception teacher leader: Jayne Van Rooyan

Year 1 teacher leader: Victoria Krater

Year 2 teacher leader: Dave Thompson

Maths subject leader: Julia Thurgood/Victoria Krater

### Over time through our Mastering Number sessions our pupils will:

- Develop fluency in calculation and a flexibility with number that exemplifies good number sense.
- Be able to clearly communicate their mathematical ideas.
- Make good progress towards the Early Learning Goals and Year Group Expectations
- Demonstrate a willingness to 'have a go'

### FEATURES OF OUR MASTERING NUMBER SESSIONS

Our Mastering Number sessions

- are inclusive with all children securing the same learning point in an interactive and engaging manner.
- enable all children to develop number sense and secure core knowledge. This is similar to supporting pupils with phonics knowledge!
- are about accessible learning which enables all children to have a firm understanding.

For all of our pupils to develop depth in understanding we want all of our children to:

- become mathematically observant
- look for relationships
- explain their thinking

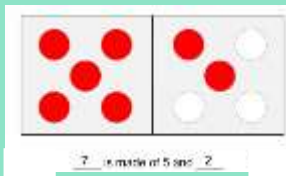
### What you will see in some of our Mastering Number sessions

- Activities which are accessible and enable all children to become more confident and competent.
- They are being supported to acquire key facts and skills they can use more efficiently which they will use in their maths lessons.



Don't count.

Say the amount.



### Principles underpinning Mastering Number at our school:

- Developing fluency makes pupils better able to access the maths in the main lesson.  
We do this by making connections between Mastering Number sessions and main lessons.
- Developing our children's mindset to look for mathematical relationships will aid development and support connections. We do this by drawing pupils' attention to the relationships so that they can connect with prior learning.
- Building confidence will enable more pupils to make progress.  
We do this by focussing on enabling all pupils to really understand a small step in learning.

### Our Mastering Number sessions include:

- A daily session of 10 to 15 minutes in addition to their daily maths lesson 4 times a week to pupils in YR, Y1 and Y2
- We scaffold understanding by using different manipulatives to expose the same structures. This enables pupils to develop a more secure understanding of core mathematical structures. Seeing the same concept using a different manipulative often leads to pupils making their own connections thus deepening understanding.
- Conceptual variation - transfer the same mathematics. When our pupils transfer their learning in a well thought out different context they become confident and make connections in learning.
- Linking the action and the thought – manipulatives secure understanding but are then visualised.