



# Mathematics Mastery

## Parent Information

The 'mastery approach' to teaching maths is the underlying principle of Mathematics Mastery. Instead of learning mathematical procedures by rote, we want pupils to build a deep conceptual understanding of concepts which will enable them to apply their learning in different situations.

# Mathematics Mastery



Ark schools wanted a new taught curriculum to ensure that their aspirations for every child's mathematics success becomes reality, through significantly raising standards.

- Success in mathematics for every child
- Close the attainment gap
- Study - children made approximately two additional month's progress on average.

- National Curriculum Reform

In mathematics there will be **additional stretch**, with much more **challenging content** than in the current National Curriculum. We will expect pupils to be **more proficient** in arithmetic, including knowing number bonds to 20 by Year 2 and times tables up to  $12 \times 12$  by the end of Year 4. The development of written methods - including long multiplication and division - will be given greater emphasis, and pupils will be taught **more challenging content** using fractions, decimals and negative numbers so that they have a more secure foundation for secondary school.



## TIMSS

- UK has been surpassed internationally in its mathematics performance.
- Singapore's students have consistently been top performers in the TIMSS assessment.
- Clearly, Singapore maths is effective.

# Mathematics Mastery



## Curricular principles

- **Fewer topics in greater depth**

Opportunities are provided throughout Mathematics Mastery for pupils to use reasoning skills to make connections between prior knowledge and newly presented material. These connections will help foster a deeper understanding of the maths concepts.

Year 1 – numbers to 10 for 3 weeks and then adding and subtracting to 10.

- **Mastery for all pupils**

Differentiation through depth, cumulative learning, AfL

- **Number sense and place value come first**

Traditional algorithms meaningfully taught

- **Problem solving is central**

Comprehension, calculation and problem solving developed simultaneously.

## Key lesson features

- Mastering mathematical understanding
- Mastering mathematical thinking
- Mastering mathematical language
- Mastery for all: Structure of learning

# Mathematics Mastery



- Mastery for all: Structure of learning

## Transitions

Used to recall quick number facts or mathematical concepts through chants, actions and songs and to prepare children for learning.

# Maths Meetings



## Why?

*The key purpose is to develop **fluency** and confidence with the skills and understanding for the year group.*



The emphasis will be on a **small selection of routines** that are **used for 10- 15 minutes everyday** so that they are:

- building over time to develop fluency and mastery
- based on oral work and conversation
- pacy, engaging and motivating, linking maths to real life
- providing variety in the practise of skills

# Maths Meetings



- Identify the day of the week, month of the year and how many *days of school* there have been
- Consolidate key ideas in mathematics
- Practise mental arithmetic
- Learn and consolidate 'general knowledge maths'
- Rhymes and chants

# Mathematics Mastery

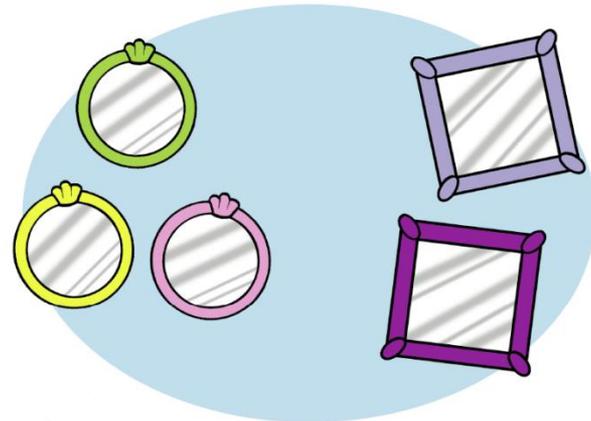


- Mastery for all: Structure of learning

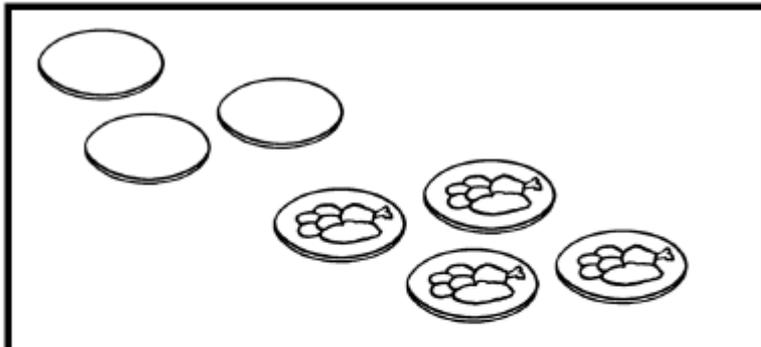
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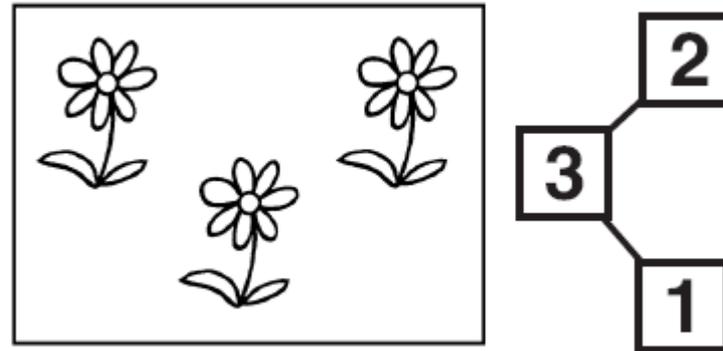
# Mathematics Mastery



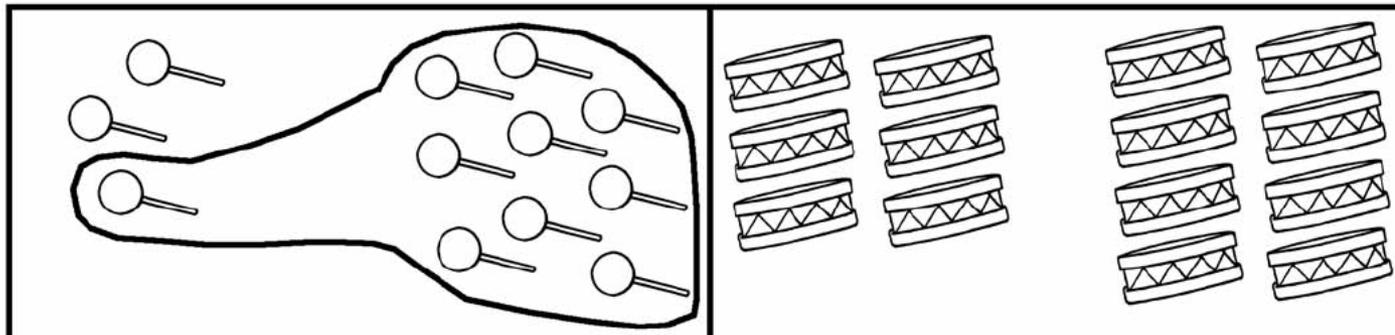
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There are \_\_\_\_\_ full plates  
There are \_\_\_\_\_ empty plates  
There are \_\_\_\_\_ plates altogether

A rectangular box containing a visual problem. On the left, there are three empty oval plates. On the right, there are three oval plates, each containing a small pile of food. Below the plates are three blank lines for writing answers.

3  
2  
1

A rectangular box containing three flowers. To the right of the box is a number bond diagram. It consists of a large square on the left containing the number '3', and two smaller squares on the right containing the numbers '2' and '1'. Lines connect the '3' square to the '2' and '1' squares, forming a right-angled shape.

$3 + 9 =$        $6 + 8 =$

A large rectangular box divided into two sections. The left section shows three lollipops outside a large lollipop shape and nine lollipops inside it. Below this is the equation  $3 + 9 =$ . The right section shows two stacks of three sandwiches each, and two stacks of four sandwiches each. Below this is the equation  $6 + 8 =$ .

## Children's work

- Task sheets
- File
- Books
- Videos
- Photographs