

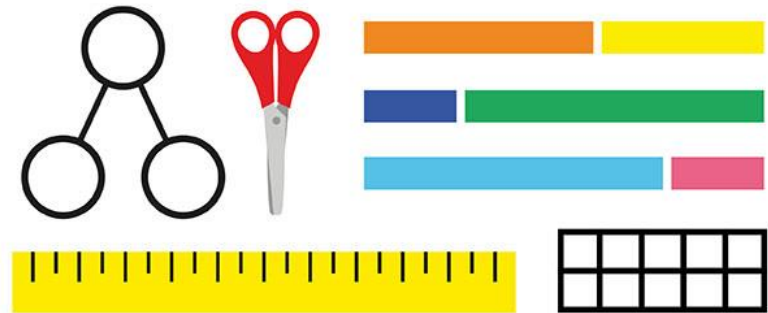
A dark blue, irregularly shaped graphic with a splatter effect, containing white text. The graphic is centered on a white background and has a rough, hand-painted appearance with some lighter blue and white splatters around its edges.

Welcome to Maths  
at Whaddon School

# What will maths look like for my child?

- A brief overview of maths at Whaddon – Singapore Maths.
- An introduction to the Concrete, Pictorial, Abstract (CPA) approach.
- Mathematical language focus.
- The core principles for counting and calculating in early maths.
- Maths facts and vocabulary progression.
- How you can help your child this year.
- The children's perception of maths at Whaddon.

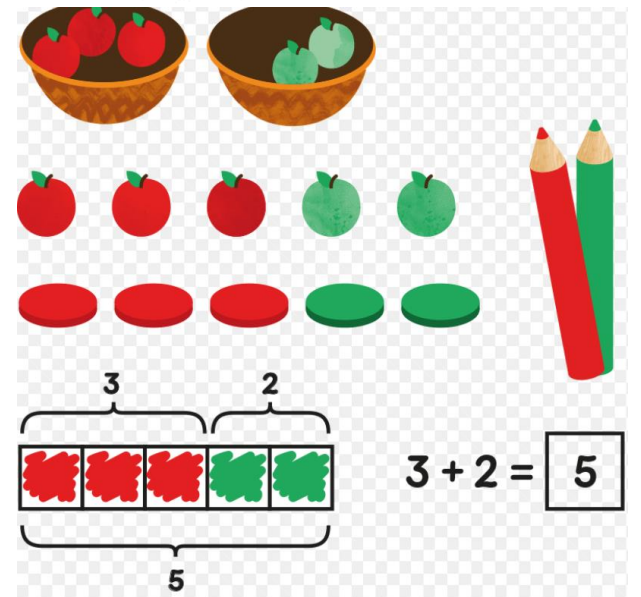
# Singapore Maths



We use an approach called Singapore Maths. This is a highly successful way of teaching maths that ensures that children tackle a range of concepts and apply their skills in real life situations. We also teach maths mastery, meaning within lessons children are challenged with a depth of thinking to master concepts. Another core element of Singapore Maths and maths mastery is the CPA approach.

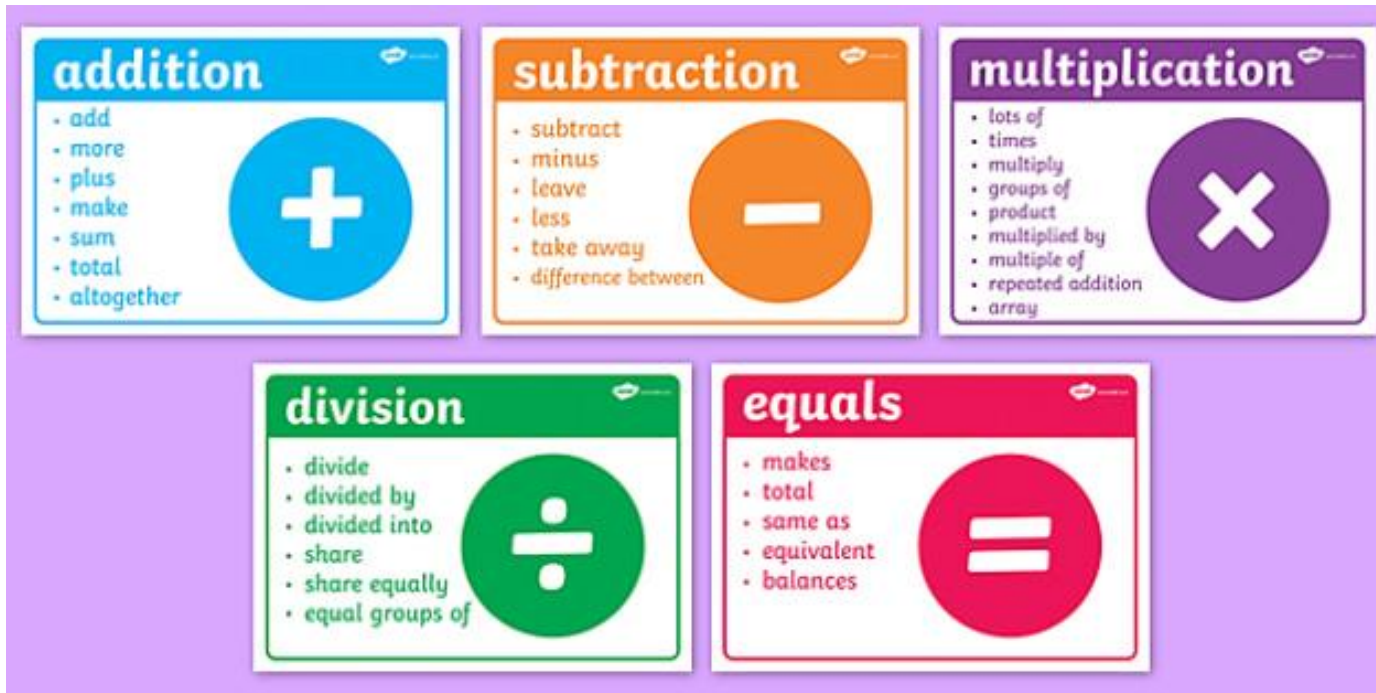
# Concrete Pictorial Abstract (CPA) Approach

- Concrete: Lego, pencils, sweets, conkers, pine cones, sticks, cake, pizza stones.
- Pictorial: anything that can be drawn; flowers, people, sweets, books, dogs.
- Abstract: numbers (numerals or words), symbols e.g. =, +, -, x, ÷.



CPA difficulty progresses from foundation stage to year 2 according to what your child individually needs. As they select their own resources, they select their own level of difficulty.

# Mathematical Language



In order to be secure in their understanding, children need to be able to talk about their maths accurately. In order to talk about their maths accurately, they need to have the correct language. We will use technical language and vocabulary from the very beginning of your child's maths journey at Whaddon. We also encourage the children to prove their understanding using this technical language. This will begin in a simpler format during foundation stage, but from year 1 onwards there is an expectation that the child explain their thinking with a 'because' and use the resources, or pictures to explain their understanding.

# The Core Elements of Early Maths

- Ordinality
- Subitising
- Cardinality
- Equality
- 1:1 Correspondence
- Concept of zero
- Conservation of number
- Counting on



# The Core Elements of Early Maths Explained

- Ordinality: numbers used to represent position (not quantity). E.g. first, second, third.
- Cardinality: numbers used to represent quantity or amount. E.g. “you have made 8.”  
“Altogether that is 6”, “the total is 10.”
- Subitising: the ability to recognise certain images and knowing there are 5 fingers on one hand or what the number 6 looks like on a dice, without counting.
- Equality: learning a sense of what is equal and beginning to use the language and understanding of: one more, one less and equal to, the same as.

# The Core Elements of Early Maths Explained

- 1:1 Correspondence: a secure understanding of counting: 1 object represents 1.
- Concept of zero: an understanding that zero has no visible or physical form; it is nothing.
- Conservation of number: the ability to hold a number in your head, rearranging the physical objects, returning to it and realising the number is still the same.
- Counting on: once children are secure in counting they will be able to learn to calculate using the four basic operations. Counting on, *from any number*, is the transition from counting to calculating.



# Maths Facts Progression

## I know number bonds to 10.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

$$\begin{array}{lll} 0 + 10 = 10 & 2 + 8 = 10 & 4 + 6 = 10 \\ 10 + 0 = 10 & 8 + 2 = 10 & 6 + 4 = 10 \\ 10 - 10 = 0 & 10 - 8 = 2 & 10 - 6 = 4 \\ 10 - 0 = 10 & 10 - 2 = 8 & 10 - 4 = 6 \end{array}$$

$$\begin{array}{lll} 1 + 9 = 10 & 3 + 7 = 10 & 5 + 5 = 10 \\ 9 + 1 = 10 & 7 + 3 = 10 & 10 - 5 = 5 \\ 10 - 9 = 1 & 10 - 7 = 3 & \\ 10 - 1 = 9 & 10 - 3 = 7 & \end{array}$$

### Key Vocabulary

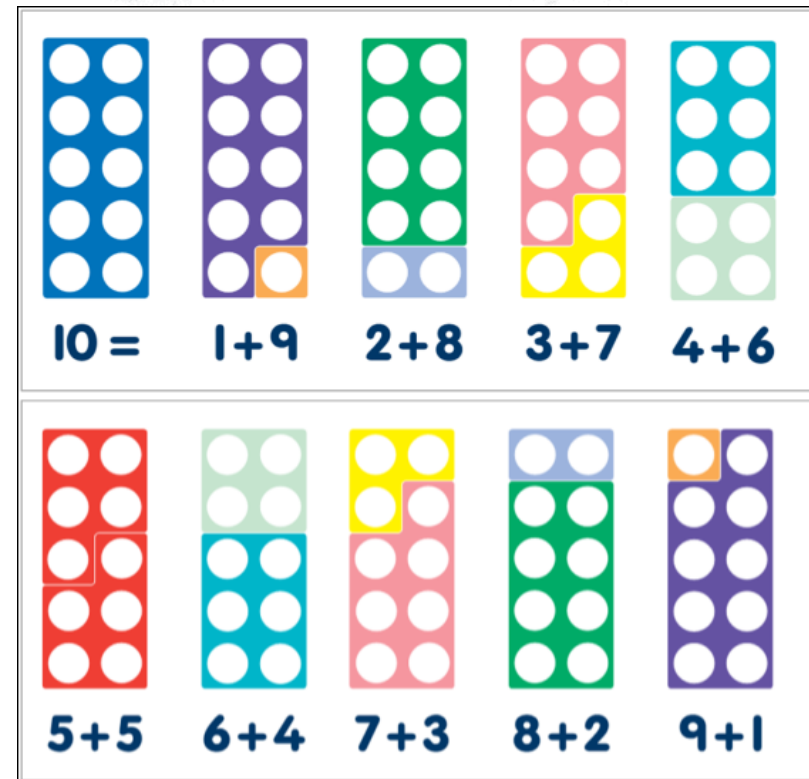
What is 3 **add** 2?

What is 2 **plus** 2?

What is 5 **take away** 2?

What is 1 **less than** 4?

They should be able to answer these questions in any order, including missing number questions e.g.  $6 + \bigcirc = 10$  or  $10 - \bigcirc = 3$ .



# Maths Facts Progression

Once the basic core elements have been covered, we turn our attention to maths facts. Maths facts refer to basic addition, subtraction, multiplication and division calculations that children learn to recall instantly with no working out. In other words, they need to learn them off by heart.

Fluency in these areas underpins much of what else is done in mathematics. The main initial focus is on number bonds, also known as number pairs.

Fast recall will greatly support your child within their maths learning, but more importantly, they need to have an understanding of the reasons behind the facts. This means when you initially begin practising, you'll need to do plenty of exploring e.g. number bonds with objects, so they understand *why*.

# Vocabulary Progression

## EARLY YEARS FOUNDATION STAGE

### *Place value*

ones

tens

digit

the same number as, as many as

more, larger, bigger, greater

fewer, smaller, less

fewest, smallest, least

most, biggest, largest, greatest

one more, ten more

### **Addition and subtraction**

add, more, and

make, sum, total

altogether

double

one more, two more ... ten more

how many more to make ...?

how many more is ... than ...?

how much more is ...?

take away

how many are left/left over?

how many have gone?

one less, two less, ten less ...



I notice that....

I think \_\_\_\_\_  
because....

I agree/disagree  
Because.....

# Vocabulary Progression

- Using precise mathematical language can also really support your child's understanding of mathematics and their ability to talk and reason about maths.
- We all know how excited children are about new words so don't be afraid to use precise language with them. For example, we will teach them to partition a number and recombine it from foundation stage. That essentially means knowing there is a 10 and a 3 in thirteen.
- Children cannot learn the meanings of words in isolation. The use of concrete resources to demonstrate what that vocabulary means is crucial in helping them to understand mathematical ideas and use the terms correctly.

# How to help your child this year...

- Make it fun and relaxed.
- Always use objects.
- Give it context (shop keeper, sharing out food at a picnic, make magic potions, line up your favourite sweets and subtract by eating).
- Focus on the journey to find the answer (How did you do that? How did you know? Brilliant thinking).
- Talk positively about maths and tricky challenges.
- Talk about and involve children in the maths of everyday life.
- Play games involving numbers and/or logic, such as card games, dominoes, or make your own e.g. shape spotting games.

# The Children's Perception: Maths at Whaddon is...

Really fun because we learn lots of different things at lots of different times of the year.

We like to go outside with our maths and learn.

We get to encourage our friends with their learning.

Amazing because you get different challenges every day.

Great because we get to choose any resources we like to help us.

We always challenge each other and ourselves. Sometimes we write our own challenges.



Thank you for  
listening