# KS2 PARENT WORKSHOP

Arbury Primary School

Aims of the session

- What does Maths look like at Arbury Primary School?

- To explain concrete, pictorial and abstract approaches in maths.

- To understand what Mastery Maths is.

- Ways to support at home.

Maths at Arbury Primary School

- At Arbury, we follow the White Rose scheme which recognises that by nurturing positive attitudes and building confidence in mathematics, all children can achieve.

- Concepts are built in small, logical steps and are explored through clear mathematical structures and representations.
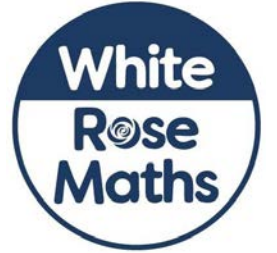
Maths at Arbury Primary School

- Children are taught together as a whole class and the focus is on depth - not acceleration - so that all children have a chance to embed learning.

- Children complete regular arithmetic tests, use TT Rockstars and regularly revisit previous learning.
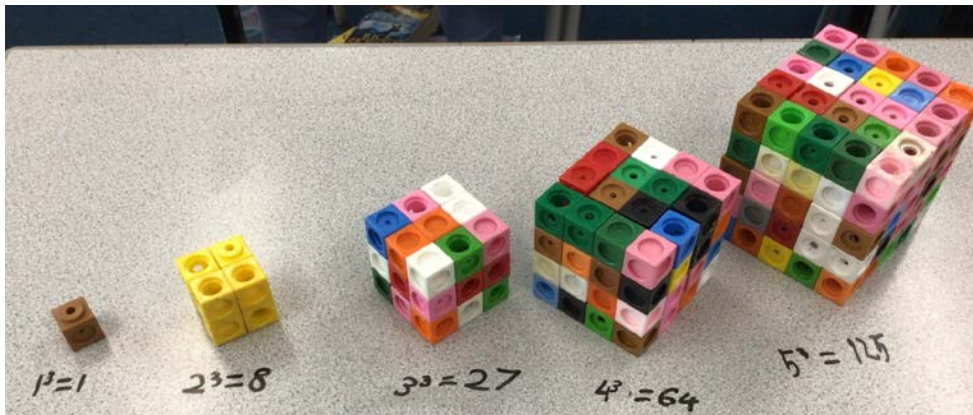
The CPA approach

We teach maths using the concrete, pictorial, abstract approach (CPA).

Maths should be practical for all ages and the CPA approach, used at any time and with any age, supports understanding.

Concrete

Concrete · Pictorial · Abstract

2 + 1 = 3
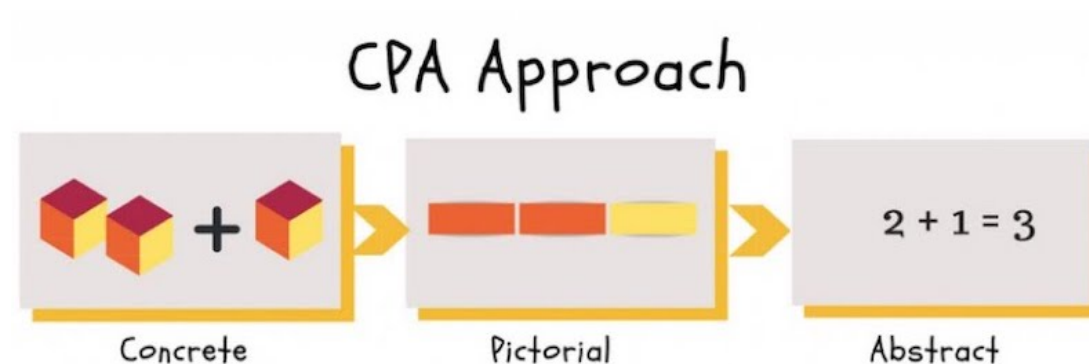
**Using physical objects to solve maths problems.**

Introducing real objects that can be manipulated to bring the problem to life. E.g. money, counters, fractions wall etc.
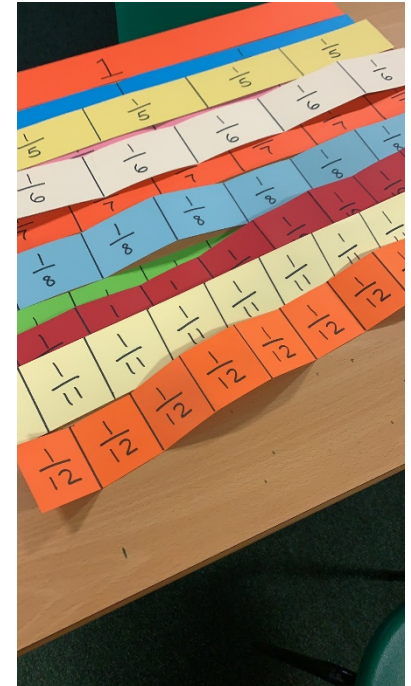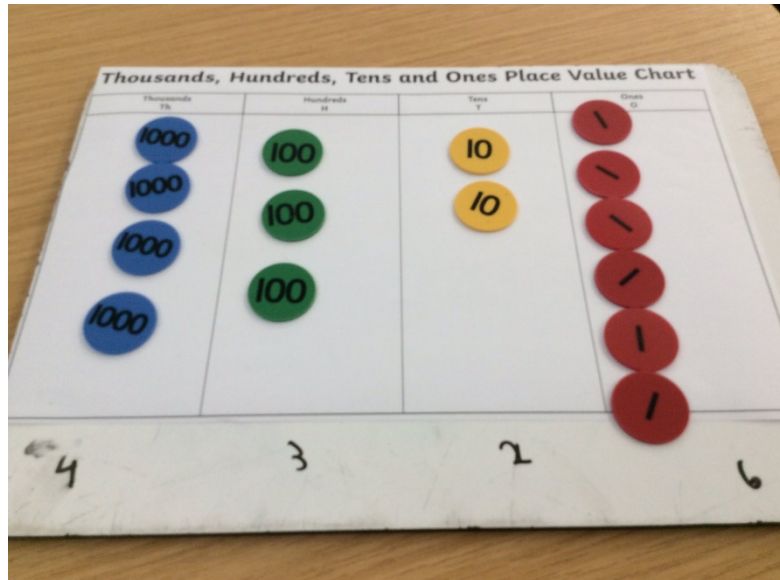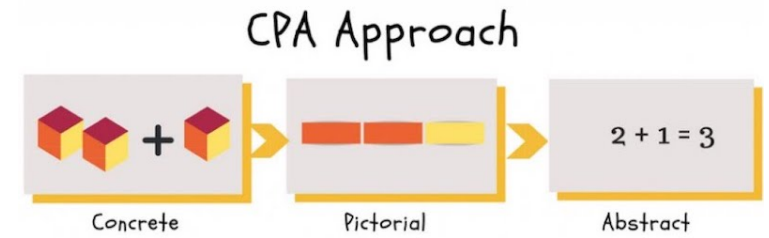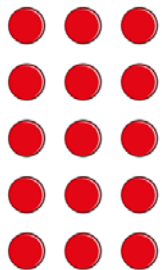
Pictorial

Using drawings to solve maths problems.

Once children are comfortable with solving problems with concrete materials, they are given problems with pictures – usually pictorial representations of the concrete objects they were using.
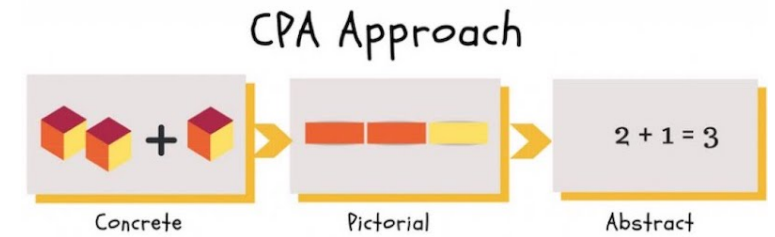
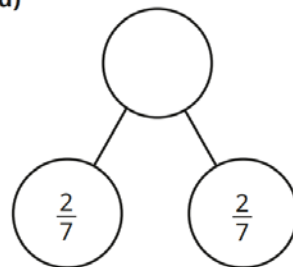Filip uses counters to show 5 equal groups of 3

a) Draw more counters to show 5 equal groups of 4

b) How many more counters did you draw?

What do you notice?

Complete the part-whole models.

a)

$\frac{2}{7}$ $\frac{2}{7}$

b)

$\frac{1}{6}$ $\frac{4}{6}$
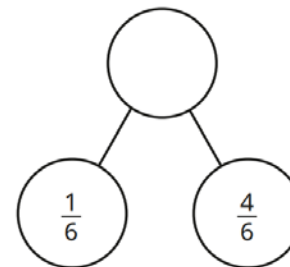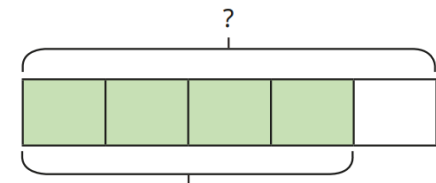
Ms Patel cycles $\frac{4}{5}$ of the way from her house to work.

She cycles 16 miles.

How far is it in total from Ms Patel's house to her work?

?

_____ miles

Abstract

Concrete   Pictorial   Abstract

Using numbers to solve maths problems.

The final stage is for children to understand abstract mathematical concepts, signs and notation. When a child demonstrates with concrete models and pictorial representations that they have grasped a concept, we can be confident that they are ready to explore the abstract.
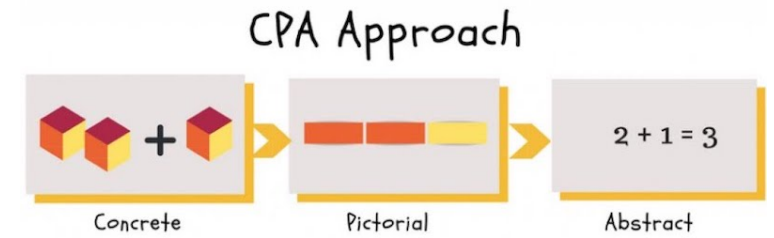
	Th	H	T	O
	5	6	3	4
−	2	7	4	5

Complete the additions.

a) $1\frac{2}{5} + 2\frac{3}{10} =$ ☐

b) $2\frac{2}{5} + 2\frac{3}{10} =$ ☐

What is mastery?

Maths mastery is a teaching and learning approach that aims for pupils to develop deep understanding of maths rather than being able to memorise key procedures or resort to rote learning.

There are 4 main aspects of mastery.

- A mastery approach

- A mastery curriculum

- Teaching for mastery

- Achieving mastery

Rosie and Mo each have some points on a computer game.

Mo has 599 fewer points than Rosie.

Mo has 4,278 points.

How many points do they have altogether?

Problem Solving

Reasoning

Applying learnt skills and concepts in a variety of different ways - word problems, multi-operational problems, graphically presented problems.

Fluency

Developing an understanding of mathematical concepts using concrete, pictorial and abstract representations. Understanding, knowing and recalling number facts, using and applying calculation strategies and skills in a variety of contexts.

Teddy works out 3,218 + 1,354

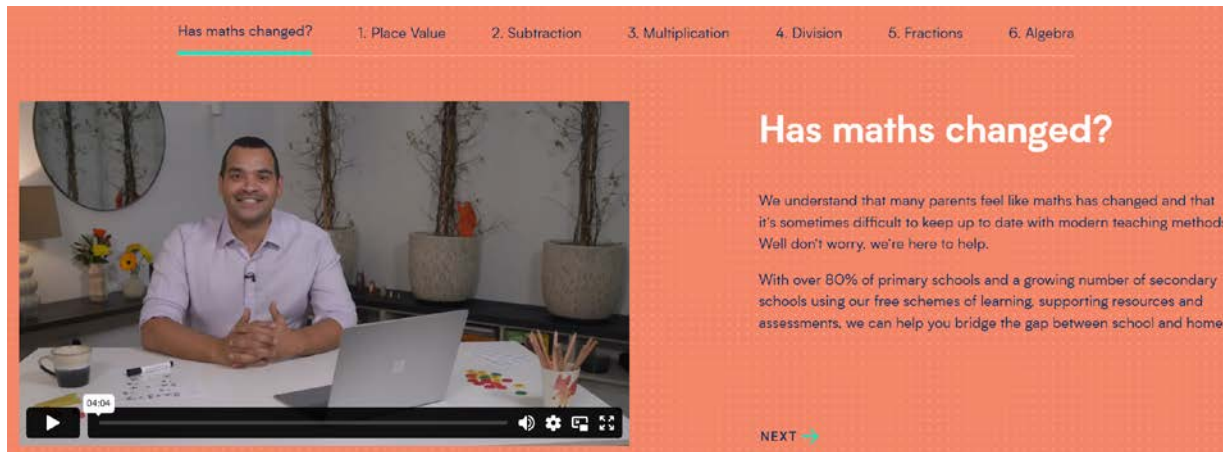|	Th	H	T	O
	3	2	1	8
+	1	3	5	4

How do you know that Teddy's answer cannot be correct?

Ways to support at home

White Rose (Parent resources section)

Maths with Michael

TIMES TABLES ROCK STARS

nrich

BITESIZE Primary Levels
Ages 3 to 11

BBC Bitesize