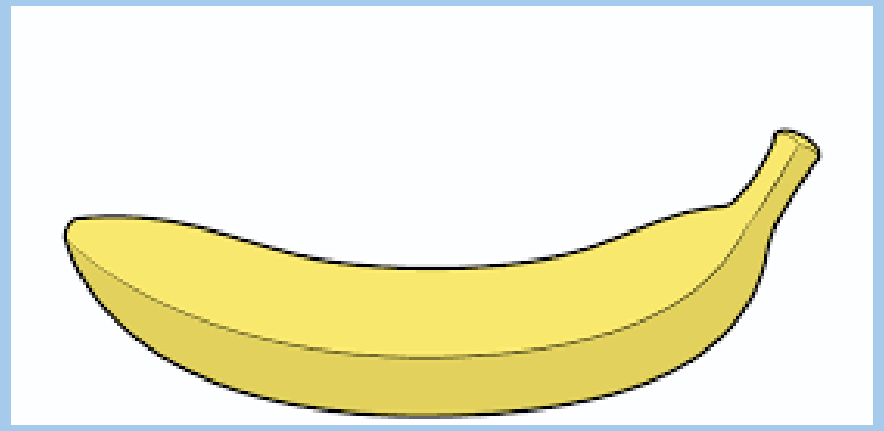
Learn with us workshop

Maths in Year 1 at Harborne Primary School

Year 1 Maths at HPS

We didn't do it like that when I was at school!

What is the CPA approach and why do we use it?



Banana

Concrete

Pictorial

Abstract

What is the CPA approach and why do we use it?

1. Concrete

- **What it is:** use physical, tangible objects to represent and manipulate mathematical concepts.
- **Example:** children may physically share objects

2. Pictorial

- **What it is:** Students move to visual representations, such as drawings, diagrams, or number lines.
- **Example**: Instead of using counters, the child would draw dots in a circle to show the objects

3. Abstract

What it is: Students use symbols, numbers, and equations to solve problems without the need for objects or pictures.

Example: At this stage, the child would use the division symbol to write and solve the calculation $8 \div 4 = 2$.

Ready to progress – what does that look like for your child?

Ready to progress statements are unique to each year group.

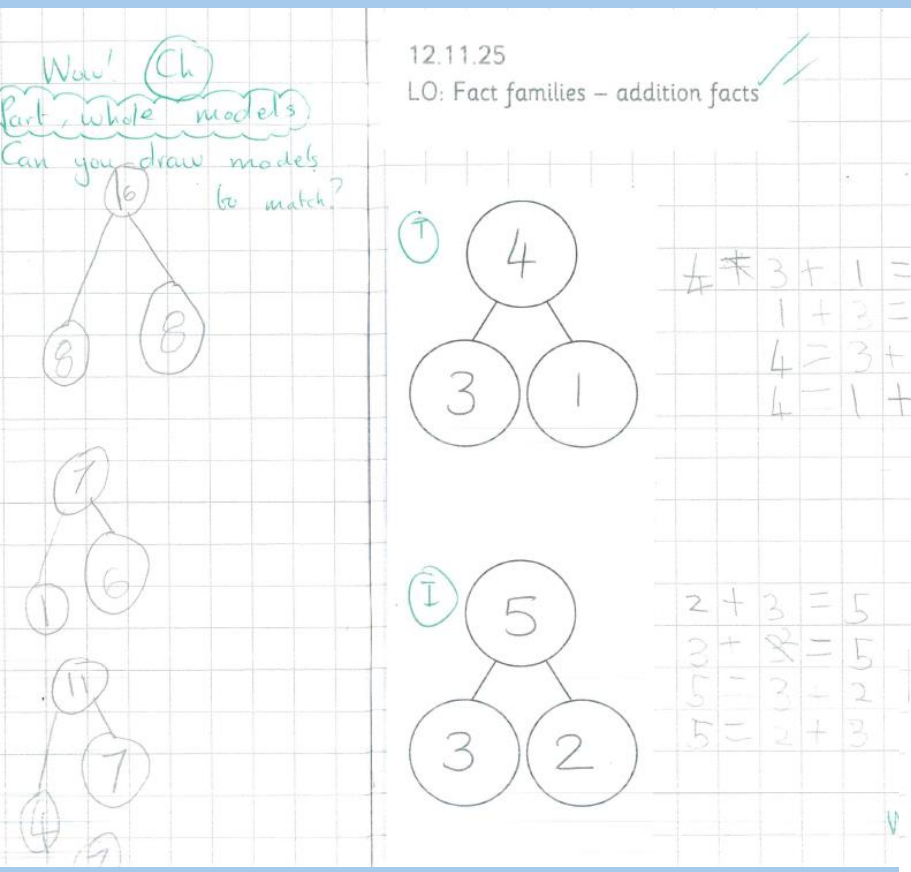
Previous experience	Year 1 ready-to-progress criteria	Future applications
Begin to develop a sense of the number system by verbally counting forward to and beyond 20, pausing at each multiple of 10.	1NPV–1 Count within 100, forwards and backwards, starting with any number.	Count through the number system. Place value within 100. Compare and order numbers. Add and subtract within 100.
Play games that involve moving along a numbered track, and understand that larger numbers are further along the track.	1NPV–2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	Reason about the location of larger numbers within the linear number system. Compare and order numbers. Read scales.
Begin to experience partitioning and combining numbers within 10.	1NF–1 Develop fluency in addition and subtraction facts within 10.	Add and subtract across 10. All future additive calculation. Add within a column during columnar addition when the column sums to less than 10 (no regrouping). Subtract within a column during columnar subtraction when the minuend of the column is larger than the subtrahend (no exchanging).
Distribute items fairly, for example, put 3 marbles in each bag. Recognise when items are distributed unfairly.	1NF–2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Recall the 2, 5 and 10 multiplication tables. Carry out repeated addition and multiplication of 2, 5, and 10, and divide by 2, 5 and 10. Identify multiples of 2, 5 and 10. Unitise in tens. Identify odd and even numbers.

Previous experience	Year 1 ready-to-progress criteria	Future applications
Understand the cardinal value of number words, for example understanding that 'four' relates to 4 objects. Subitise for up to to 5 items. Automatically show a given number using fingers.	1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	Add and subtract within 10.
Devise and record number stories, using pictures, numbers and symbols (such as arrows).	1AS–2 Read, write and interpret equations containing addition (+), subtraction (−) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	Represent composition and decomposition of numbers using equations.
See, explore and discuss models of common 2D and 3D shapes with varied dimensions and presented in different orientations (for example, triangles not always presented on their base).	1G–1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	Describe properties of shape. Categorise shapes. Identify similar shapes.
Select, rotate and manipulate shapes for a particular purpose, for example: • rotating a cylinder so it can be used to build a tower • rotating a puzzle piece to fit in its place	1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	Find the area or volume of a compound shape by decomposing into constituent shapes. Rotate, translate and reflect 2D shapes. Identify congruent shapes.

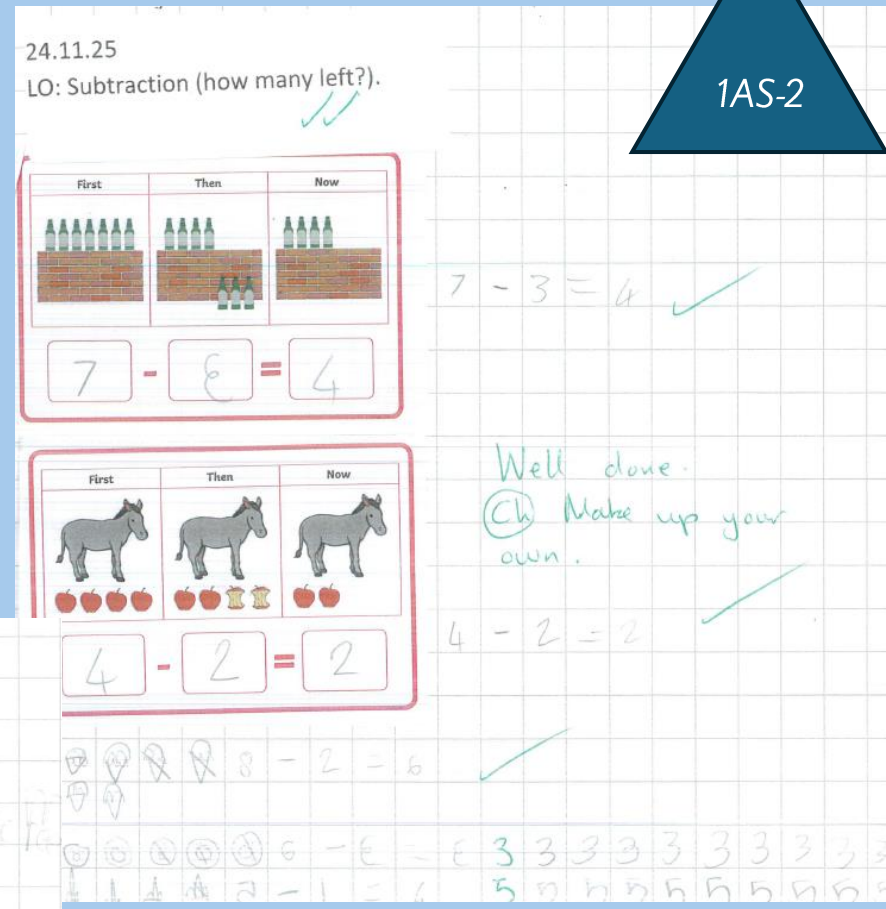
What are the key aspects of maths for my child?

- ***Number and Place Value (NPV)*** *– the recognition of numbers in the counting system, what a digit is worth and how this relies upon where it is in a number*
- ***Number Fluency (NF)*** *– the ability to recall information fluently and quickly. This is different to learning by rote. It is repeated exposure and depth of knowledge for application.*
- ***Addition and Subtraction (AS)*** *– the application of children's understanding of number to mathematical functions*
- ***Geometry (G)****– exploration and understanding of 2D and 3D shapes*

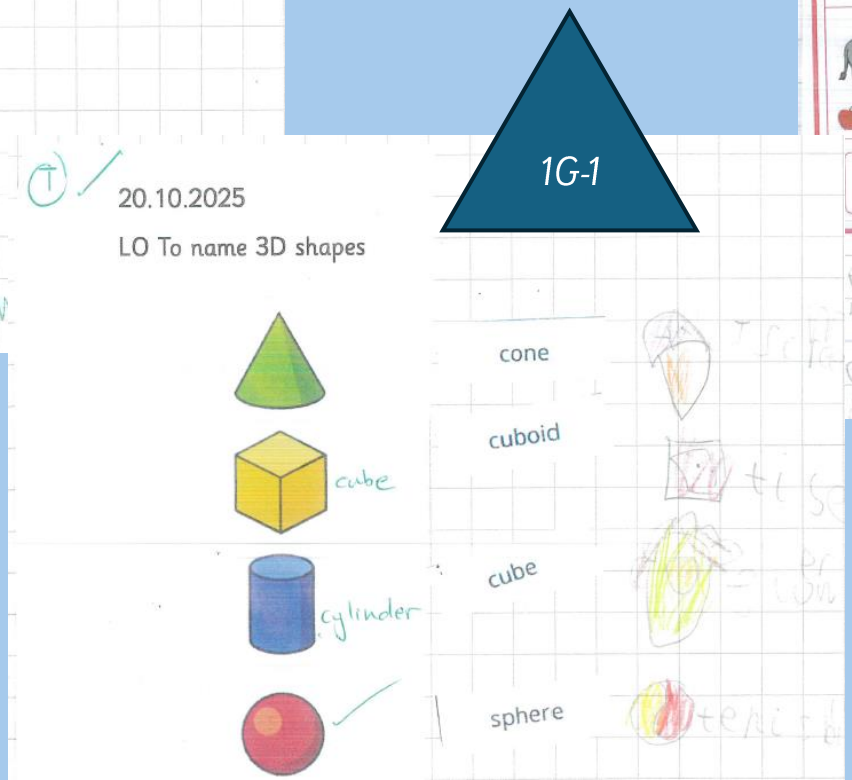
What does work look like in your child's year group?



1AS-1



1AS-2



1G-1

Can you see how your child's teacher has used the CPA approach?

How can I help my child at home?

- Numbots – a programme for developing number bond fluency
- PurpleMash homework
- Both of these logins can be found in your child's reading diary – please alert your child's class teacher if they are not in there

- Apply any of the games or strategies learnt here today
- Make maths fun – we learn best when we are enjoying ourselves
- Spot maths in the wider world i.e. shape hunts, number hunts, sharing evenly