Math's Parent Workshop

Wednesday 5th November 2025

Miss Pandya

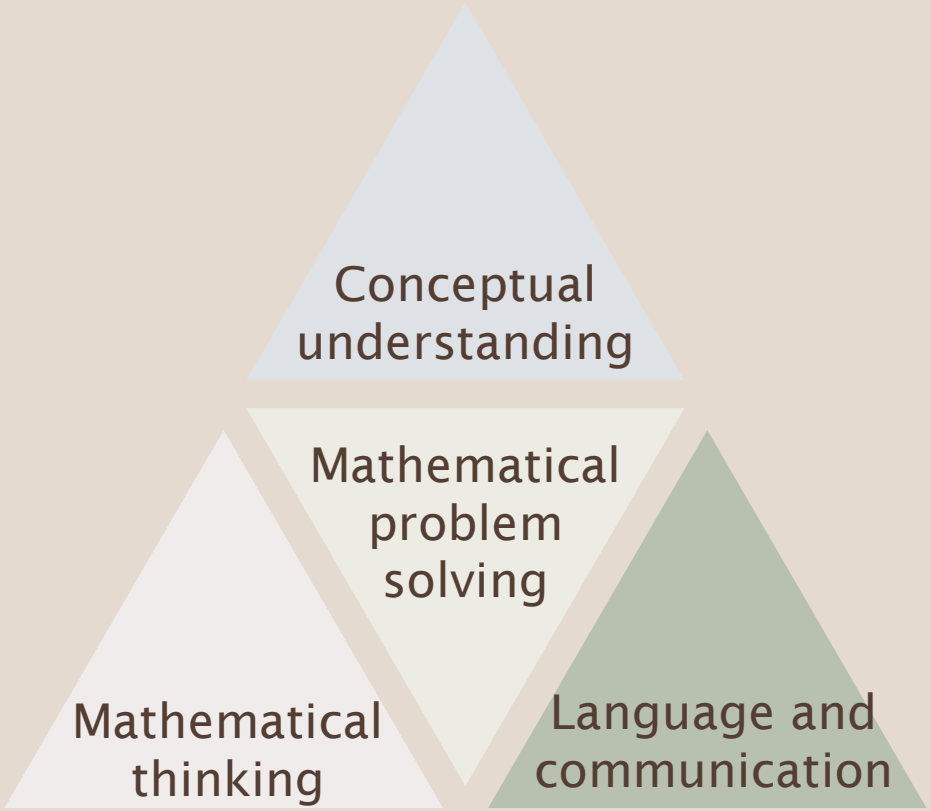
Aims for today

- To give an overview of how maths is taught at Coppice Primary School
- To share some of the practical resources which are used by children in maths lessons
- To share strategies you could use to support your child(ren) at home
- To answer any questions you may have

Why have we decided to go with Maths Mastery?

We have adopted a mastery approach to Mathematics in order to deliver the three aims of the National Curriculum, fluency, reasoning and problem solving. Underpinning this pedagogy is a belief that all children can achieve in Maths. We believe in promoting sustained and deepening understanding by employing a variety of mastery strategies, with teaching for conceptual understanding at the heart of everything we do. Our approach aims to provide all children with full access to the curriculum, enabling them to develop independence, confidence and competence – 'mastery' in mathematics in order to be independent mathematicians who are well equipped to apply their learning to the wider world.

What are Maths Mastery's Key principles?



Conceptual understanding

What it means:
Children are taught to understand *why* maths works, not just *how* to get an answer.
Instead of memorising steps or tricks, pupils build a deep understanding of the underlying concepts.

Example:
When learning addition and subtraction, children might use counters, number lines, or place value blocks to *see* what happens when numbers are combined or taken away. Later, they move to pictures and finally to abstract numbers (e.g. 23 + 15).

Why it matters:
If children understand the *concept*, they can apply their knowledge in new situations — for example, solving a word problem or tackling a harder calculation confidently.
This builds long-term confidence and flexibility with numbers.

Mathematical Thinking

What it means:
Children are encouraged to *think like mathematicians* — to look for patterns, make connections, explain their reasoning, and spot mistakes.
It's about *reasoning* and *problem solving*, not just getting the right answer.

Example:
Instead of just solving 7 × 8, a child might notice that 7 × 4 = 28, so 7 × 8 must be double that, 56.
They're making links and using what they already know.

Why it matters:
When children think mathematically, they become curious and resilient learners.
They learn that mistakes help them understand more deeply, and that there's often more than one way to solve a problem.

Language and Communication

What it means:
Talking about maths is key. Children are encouraged to explain their thinking using clear mathematical language — for example, using words like *more than*, *equal to*, *difference*, or *commutative*.

Example:
Rather than just saying “I got 12,” a child might say, “I know 4 × 3 = 12 because 4 groups of 3 make 12.”
They’re showing understanding through talk.

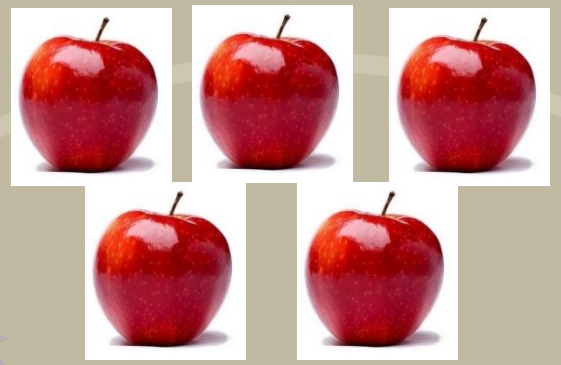
Why it matters:
Explaining maths out loud helps children organise their thoughts and spot gaps in understanding. It also helps teachers see what children truly know, and supports all learners, especially those for whom English is an additional language.

What does conceptual understanding look like?



Multiple Representations!

Concrete
The DOING

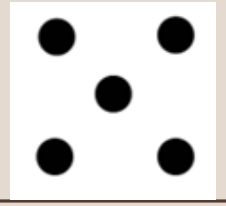


Demonstrating depth



Pictorial
The SEEING





Abstract
The SYMBOLIC

5

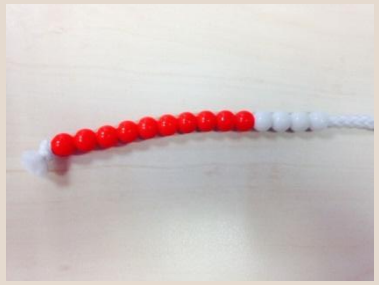
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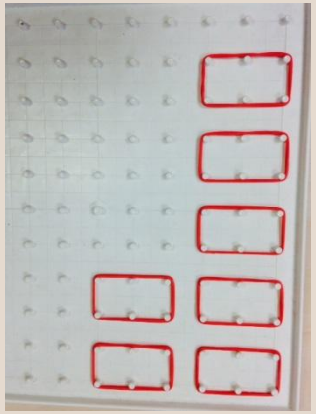
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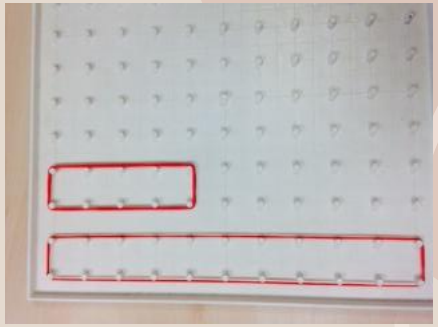
Concrete representations

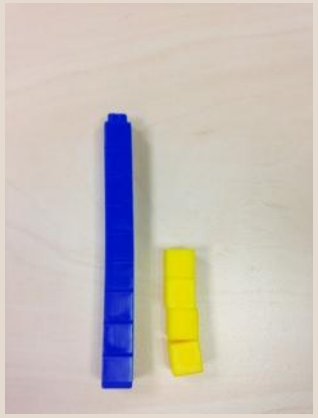










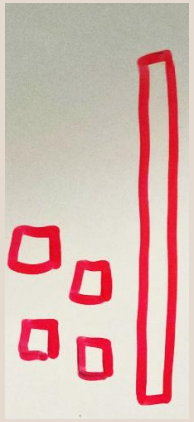


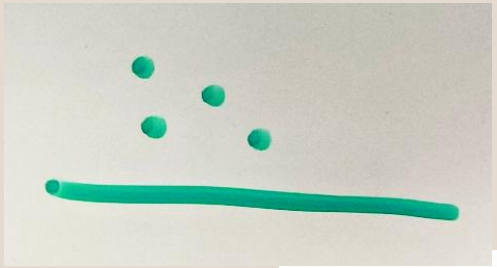


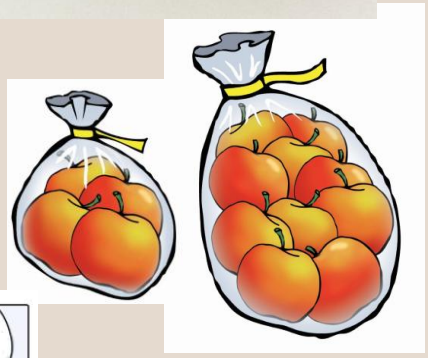


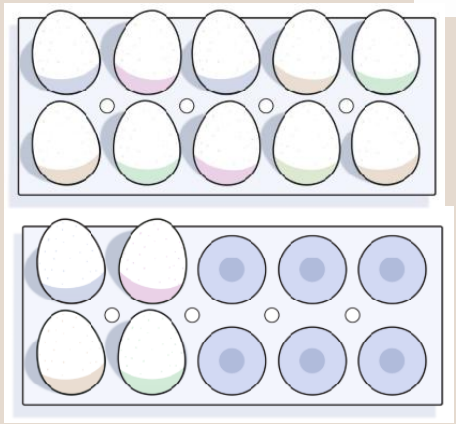


Pictorial Representations

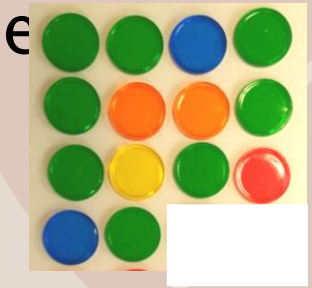








- Images of actual concrete manipulatives
- Tallies, dots, circle
- Drawing
- Jottings
- Bar models
- Number lines (mixture of pictorial and abstract)



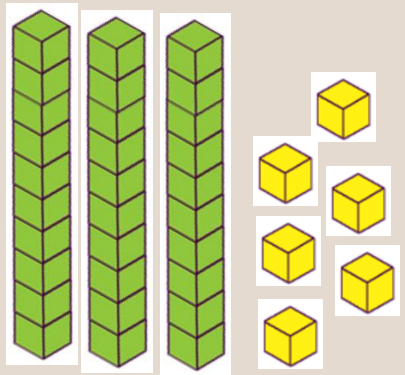




Representations of the Number 36.

Conceptual understanding is also part of our Talk Task in lesson time. This means that the children are exposed to a variety of different representations and they discuss this in partners.

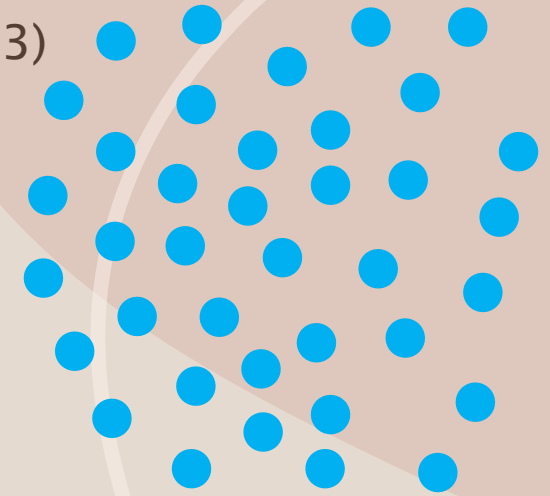
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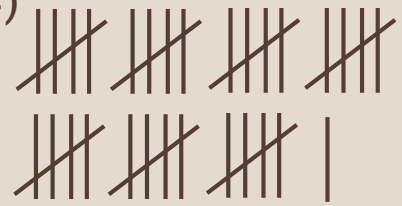
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Tens	Ones
3	6

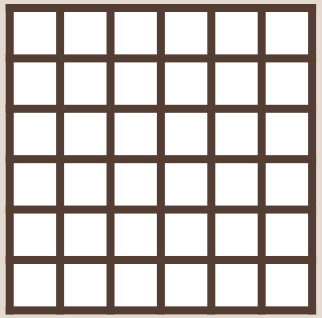
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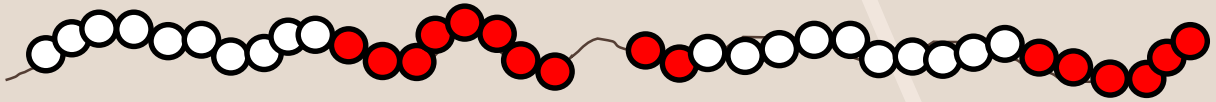
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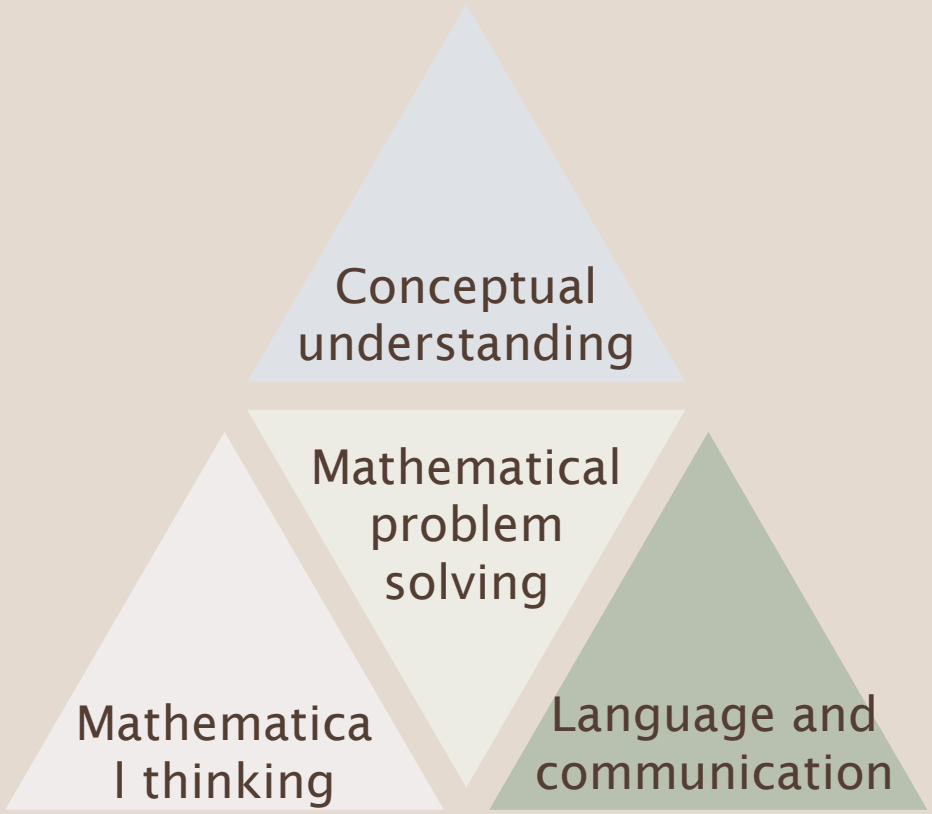
5)



6)



The second key principle



What does language and communication look like at CPS?

Calculations to choose from:

27 – 9	13 – 6	24 – 7
21 – 3	25 – 8	23 – 6

Strategy:

'Make ten'

"I know I can partition 9 into 7 and 2 so I can subtract 7 ones to make 20.
I can regroup one ten for ten ones and subtract 2. 10 subtract 2 is 8 so 20 subtract 2 is 18."

Star words



regroup
is equal to
subtract

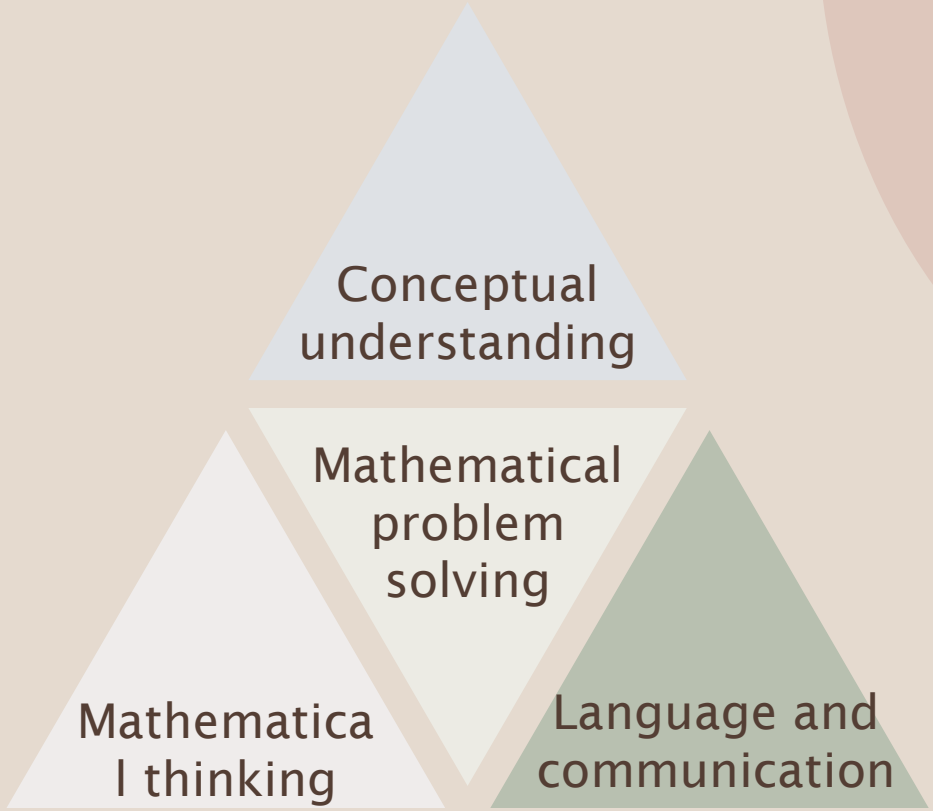
Modelling of language expectations are done explicitly to the children just before they attempt their talk task. This is using the star words that are clearly displayed throughout the Maths Mastery slides. The purpose of this task is to emphasise the importance of correct language

The Big Picture

- Opportunities to relate maths to ‘real’ life applications
- Opportunities for pupils to make connections
- Opportunities to promote and develop pupil reasoning

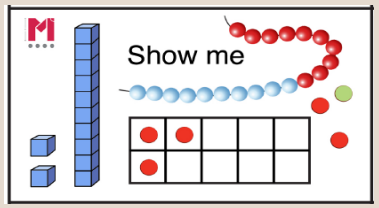


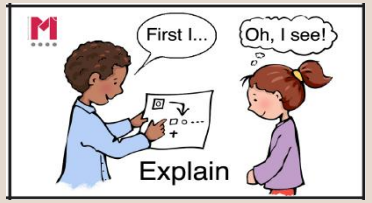
The final principle!

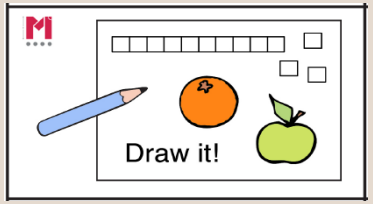


What does mathematical thinking look like at our school?

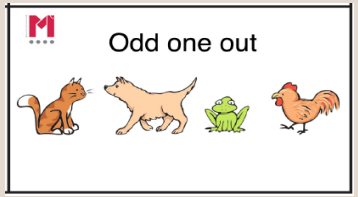
- If we know this, what else do we know?
- Why is that a good mistake?
- Give me . . .tell me . . .show me . . .



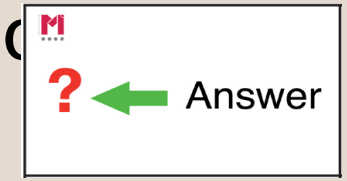


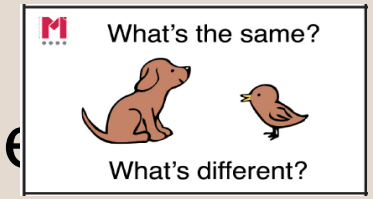






- Why is this the odd one out?
- The answer is . . .what is the questi
- Give me a silly answer for . . .?
- What's the same? What's different?
- Is it always, sometimes or never true

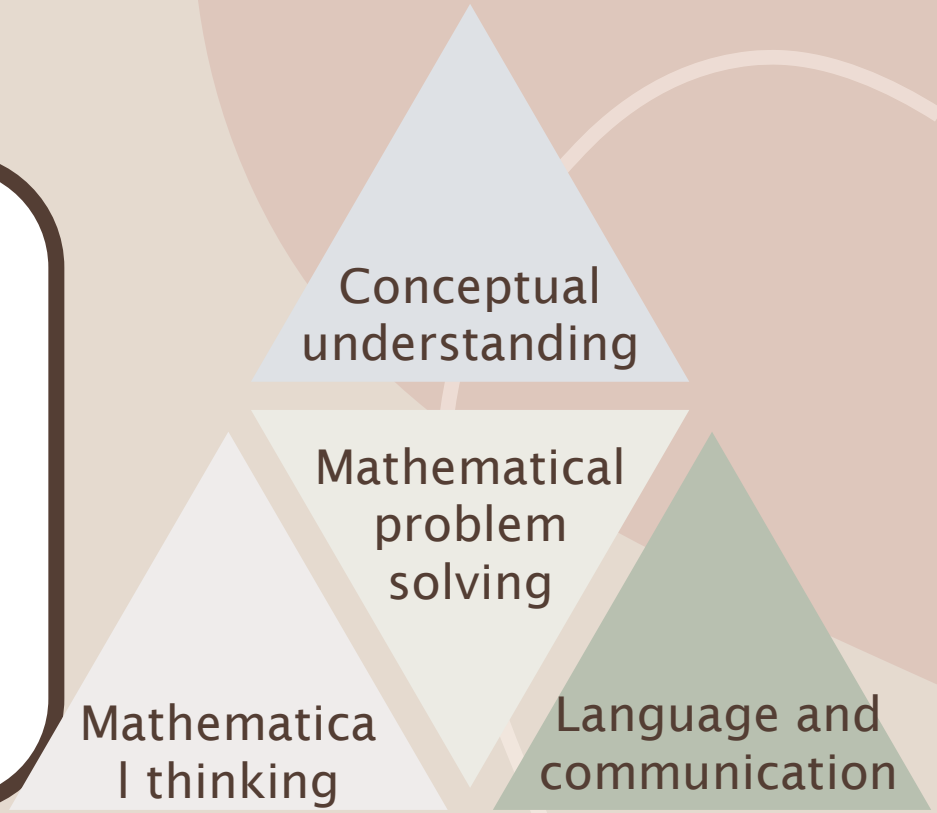




Why is problem solving ‘at the heart’?

*“Teaching is for learning; learning is for **understanding**; understanding is for reasoning and applying and, ultimately problem solving.”*

Ministry of Education, Singapore (2012), p.21



Is Maths really that important at home?

You, as parents and carers, have a valuable opportunity to support your children's mathematical development through everyday activities at home. Engaging them in real-life situations — such as comparing car insurance quotes or working out which supermarket offer provides the best value — helps children see how mathematics is used in daily life.

These experiences not only strengthen their understanding of key mathematical concepts but also enhance their problem-solving skills, which form an essential part of the UK primary curriculum.

Ways in which you can help and support your children

•**Learn their methods** – Ask your child to show you how they work out answers. Try to use the same methods they learn at school, such as *bar modelling*.

•**Practise telling the time** – Many children find analogue clocks tricky. Encourage them to read the time on real clocks at home or when you're out and about.

•**Use fractions in everyday life** – Talk about fractions you see around you, such as "half" or "quarter." For example, ask, *"What fraction of this pizza is left?"*

•**Practise times tables** – Regular practice really helps! Ask quick questions in the car, on a walk, or at the dinner table. Challenge them to say their times tables backwards or in random order for fun.

•**Play maths games** – Many games build maths and logic skills while being fun! Try *jigsaw puzzles* for spatial awareness, or *board games with dice* to practise counting. Games like *darts*, *Scrabble*, and *chess* also help develop strategy and number skills.

Ways in which you can help and support your children

•**Encourage problem solving** – The KS2 maths curriculum focuses on problem solving. Get your child involved in everyday challenges, such as finding the best supermarket deal, working out a 30% discount on clothes, or comparing internet prices. These real-life examples make maths meaningful.

•**Ask open questions** – Instead of giving your child the answer, help them think it through. Try asking:
•“Why did you write that down?”
•“How did you get that answer?”
•“What method did you use?”
This helps children explain their thinking and build independence.

•**Use technology wisely** – Short sessions on maths apps can make practice fun and engaging. Great options include **MyMaths**, **Mr Thorne’s Maths**, and **DoodleMaths** — many are free or low-cost.

•**Offer a challenge** – If your child finds maths too easy, explore websites like **NRICH** (nrich.maths.org) or **Transum** (transum.org) for fun puzzles and higher-level problem solving.

Any questions?

Thank you

Miss Pandya