

How we teach and learn maths at St. Mark's

Parent presentation

18th November 2022

What will be covered this morning

- The essence of teaching for mastery in maths - what it is and why we teach this way
- What mastery looks like across the school
- What mastery looks like for Years 5 and 6
- What you can do to support at home

The essence of teaching for mastery - what and why

- Everyone can do maths
- If you work hard at maths you can succeed
- Whole class interactive teaching
- **Procedural fluency + conceptual understanding**
- Key facts are learnt to **automaticity**

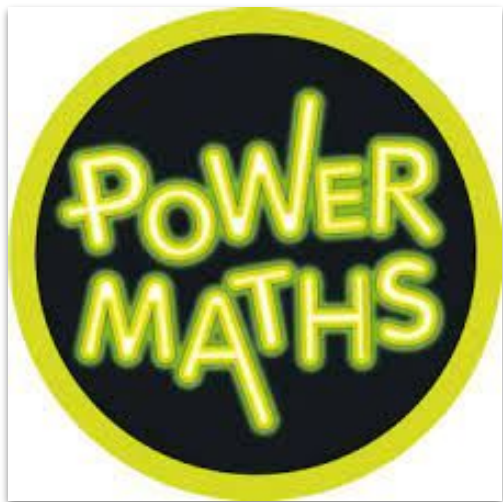
What mastery looks like across the school

- What is fluency?
- Students' ability to "... provide correct answers quickly ... use facts and computation strategies they know to efficiently determine answers that they do not know." (Russell, 2000)
- Three types of fluency: conceptual, procedural and factual

What does this look like for your Year 5 or 6 child?

- Work confidently with larger numbers.
- Make connections between multiplication and division, fractions, decimals, percentages and ratio.
- Solve a wider range of increasingly complex problems.
- Language of algebra.
- Deepen geometry and measures understanding including more complex geometric properties.
- By the end of year 6, pupils should be **fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages**. Pupils should read, spell and pronounce mathematical vocabulary correctly.

What mastery looks like across the school



What mastery looks like across the school

- Number@9
- Low stakes testing

1) $45,372 - \boxed{} = 20,540$

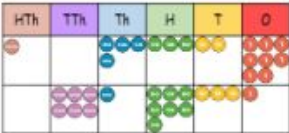
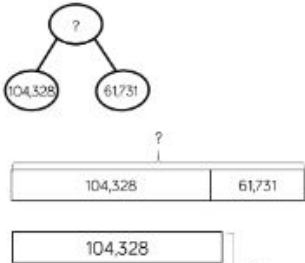
2) Use rounding to find an approximate answer to
 $14,073 - 9,842$

3) Put the numbers in ascending order.
548,920 544,863 584,650 555,590

4) What fraction do you need to shade so that the whole bar is shaded?



Calculation policy

Year Group	Skill	Representations and Models	Concrete The 'doing' stage	Pictorial The 'seeing' stage	Abstract The 'symbolic' stage																		
5	Add with more than 4 digits	Part-whole model Bar model			$104,328 + 61,731 = 166,059$ <table border="1"> <tbody> <tr> <td>1</td><td>0</td><td>4</td><td>3</td><td>2</td><td>8</td></tr> <tr> <td>+</td><td>6</td><td>1</td><td>7</td><td>3</td><td>1</td></tr> <tr> <td>1</td><td>6</td><td>6</td><td>0</td><td>5</td><td>9</td></tr> </tbody> </table> 1	1	0	4	3	2	8	+	6	1	7	3	1	1	6	6	0	5	9
1	0	4	3	2	8																		
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What does this look like for your Year 3 or Year 4 child?

How we use the Dienes

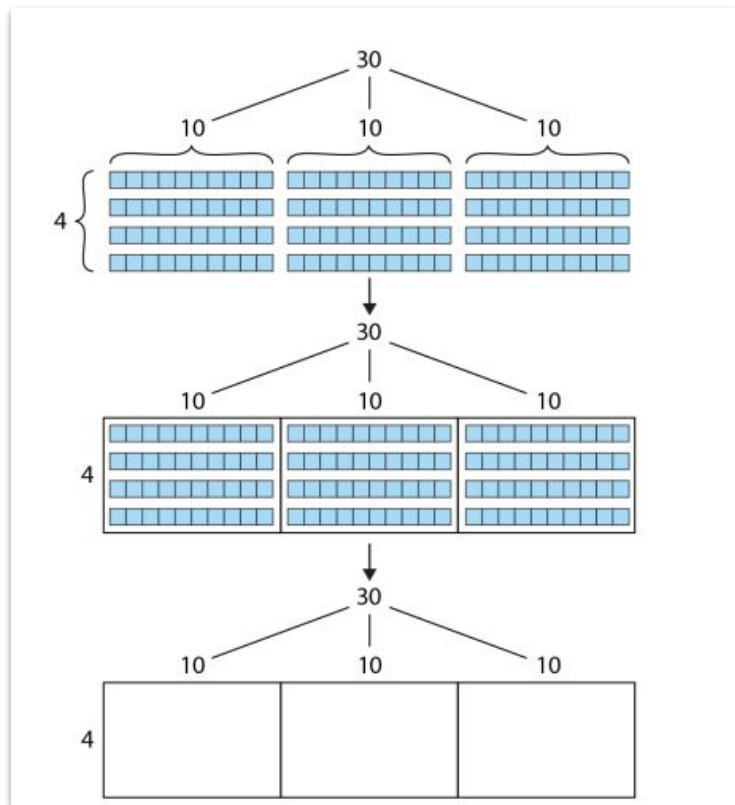
<https://mathsbot.com/manipulatives/blocks>

How we use the place value chart

<https://www.topmarks.co.uk/Flash.aspx?f=diennesandcoinsv3>

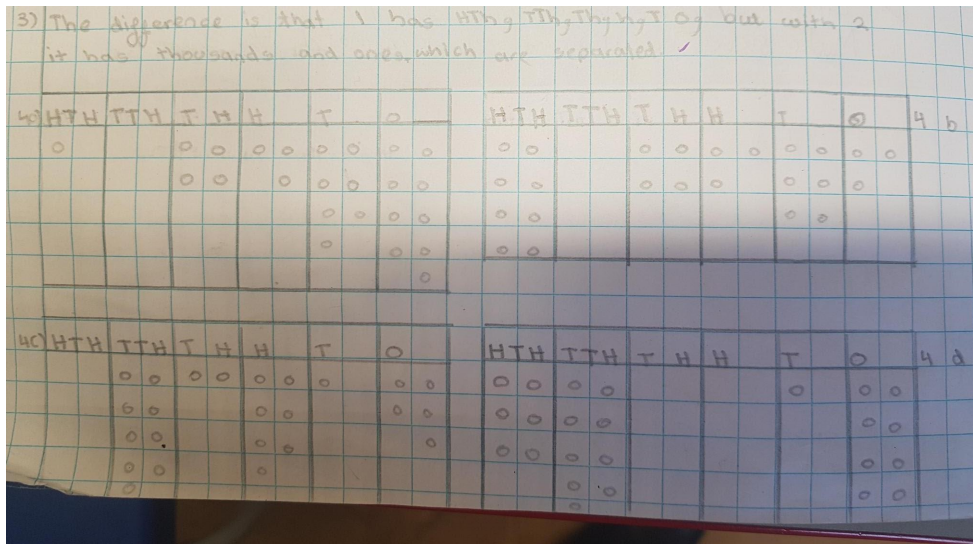
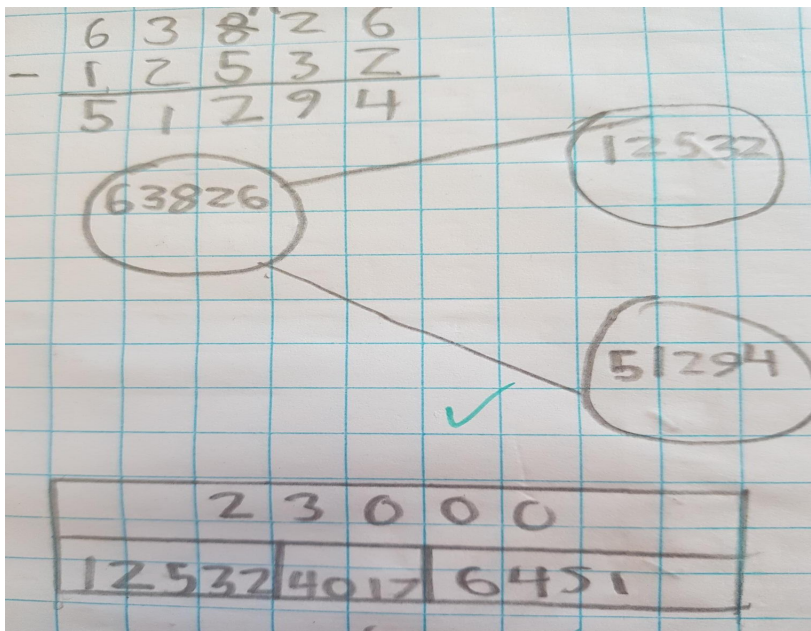
<https://assets.whiterosemaths.com/fixed/wrm/digital-tools/pv-chart/index.html>

What does this look like for your Year 5 or 6 child?



How we represent calculations in arrays/grids.
Supporting the representation of the multiplication of larger factors more easily.

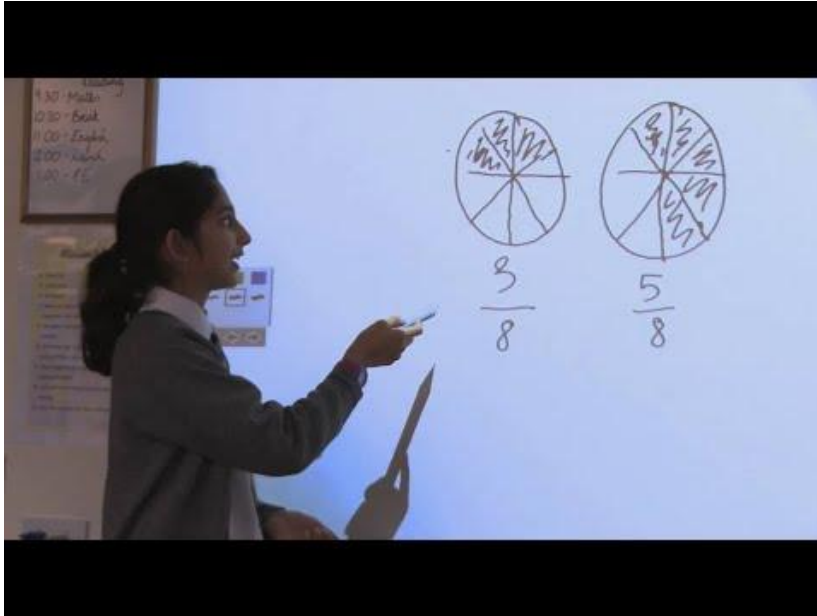
Examples of Year 5 and Year 6 learning



Place value chart

Part-part-whole model and bar model

Mastery teaching in action - Year 6



Is your child ready for Year 6?

'Complete this equation in many different ways.'

$$352,000 = \boxed{} \times 100,000 + \boxed{} \times 10,000 + \boxed{} \times 1,000$$

(e.g. $2 \times 100,000 + 15 \times 10,000 + 2 \times 1,000$

or

$$0 \times 100,000 + 0 \times 10,000 + 352 \times 1,000)$$

Is your child ready for Year 7?

'Thomas uses these five number cards to create a multiplication equation. What was his equation?'



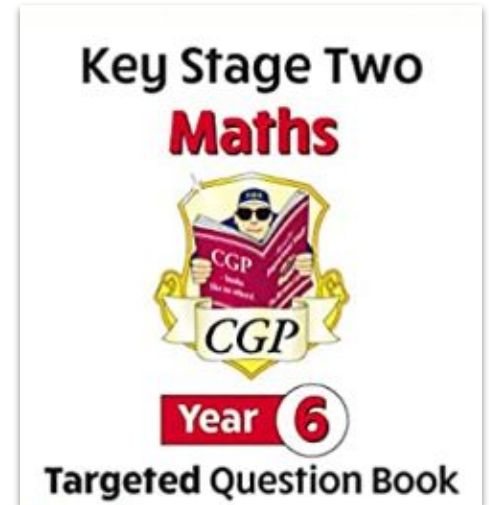
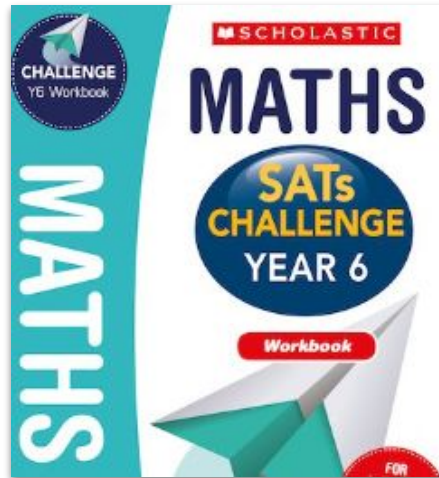
$$\square \square \square \times \square \square = 9,585$$

'How many solutions can you find?'

$$\square \times \square = 24,000$$

Home learning for Years 3 and 4

- Support but don't do it for them.
- **Time** is a skill that especially needs to be practised as much as possible at both school and home.



Home learning

Consolidation: keep the practice fun!



Thank you



Q&As