Maths Mastery at Warrender

Mathematics Mastery

Which is the odd one out, and why?

- 5
- 10
- 12

Objectives for today:

- To understand what is meant by 'Mastery' in mathematics.
- To identify how fluency impacts upon achieving mastery.
- To increase confidence and understanding in supporting your child at home.

3. Some children, who feel confident, will be let loose. They'll be able to explore deeper into the woods, before returning to the group to continue on with the journey.

2. Some children will need a little additional support along the way

4. Children will not be racing off ahead on a different journey.

5. Children will not be left behind alone and isolated.

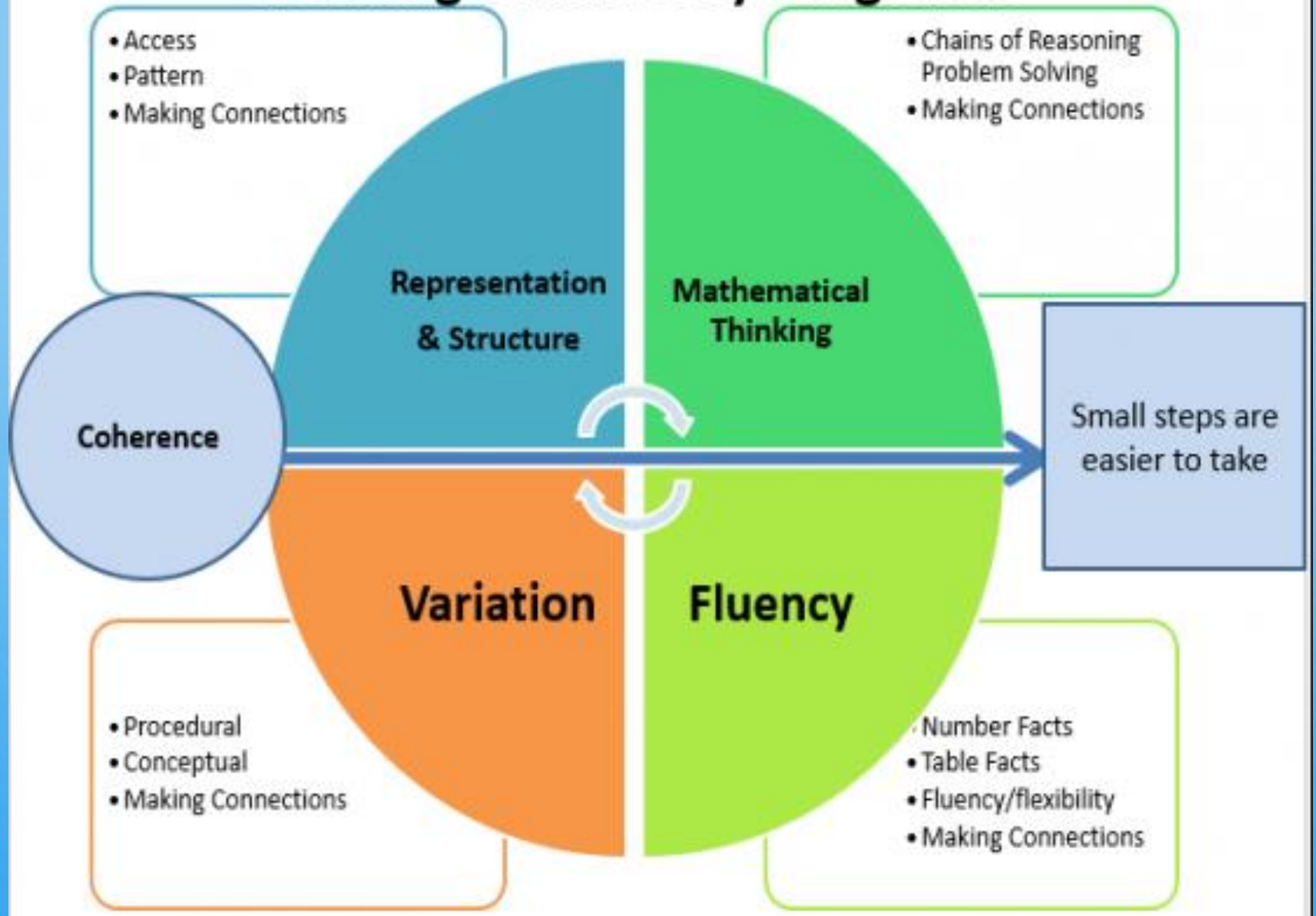
1. We ALL start the journey TOGETHER

We're Going on a Maths Hunt

Maths mastery is more…

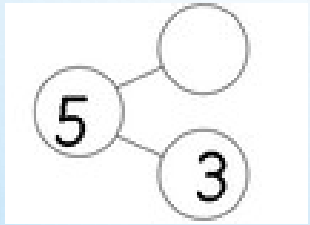
- Deep and sustainable learning.
- The ability to build on something that has already been sufficiently mastered.
- The ability to reason about a concept and make connections.
- Conceptual and procedural fluency.

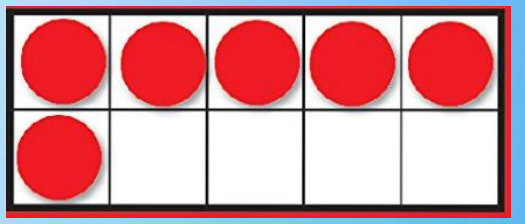
Teaching for Mastery 5 big ideas

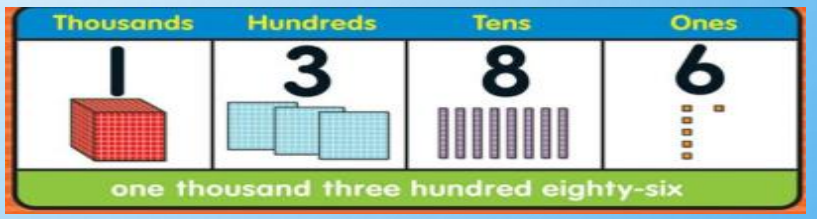


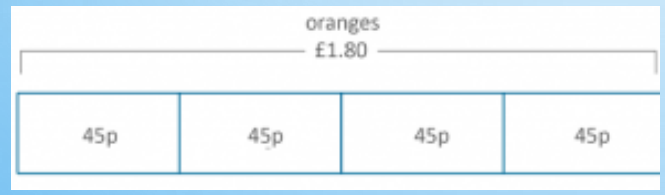
Representation and structure:

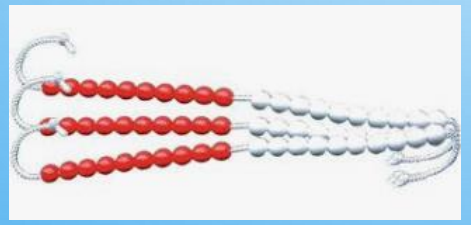
- Part, part whole model
- Ten frames
- Place value charts
- Bar models
- Numicon
- Cuisenaire
- Number beads
- Number lines
- Thermometers, clocks, weighing scales, measuring jugs, metre sticks, etc.











Fluency:

- Quick recall of facts and procedures
- The flexibility and fluidity to understand the structure of maths
- The ability to recognise relationships and make connections in mathematics
- Multiplication screening – June 2020 for year 4.
- Up to 12x12 answering in 6 seconds.

Mathematical thinking:

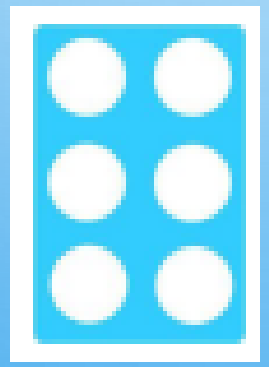
- Chains of reasoning and justifications using their mathematical understanding.
- The ability to investigate problems.
- The ability to give reasoning and not only say the answer.
- To be able to explain the process to others.
- Being able to represent the answer in a different way.
- By teaching it to others.

Coherence:

- Coherence is the journey that your child is taking within an aspect of maths.
- They are smaller steps so that your child is exposed to variation, reasoning and problem solving.
- This leads to a more confident mathematician who is able to use previously taught objectives to answer deeper thinking questions/problems.

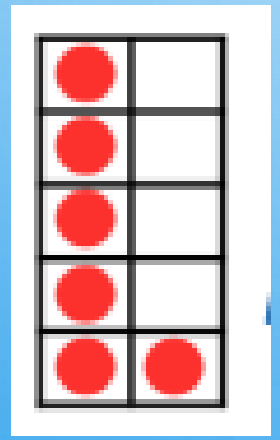
Variation:

- Conceptual variation – different represenations of the same idea straengthens our understanding of what 'it' is.
- What would a child understand about the 'sixness' of 6 through only being exposed to it as a numicon 6 shape?



Variation:

- Procedural variation – choosing to vary one aspect to expose a mathematical structure or connection.
- Is there a way to structure the learning of number bonds of 6 in a way that encourages children to think mathematically, see patterns, make connections?

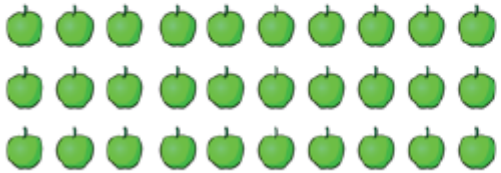


Maths mastery lessons at Warrender:

- Practise
- Variation
- Applying
- Reasoning
- Problem solving

Divide by 10

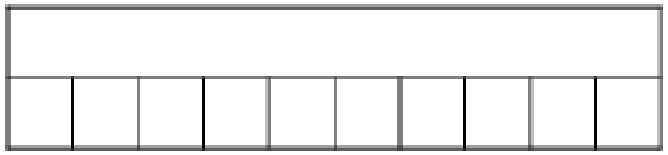
Apples can be sold in packs of 10
How many packs can be made below?



□ ÷ □ = □

When 30 apples are sold in packs of 10, ___ packs of apples can be made.

Can you show this in a bar model?



Divide by 10

I have 70 p in my pocket in 10 p coins. How many coins do I have? Draw a picture to prove your answer.

Fill in the missing numbers.

- 70 ÷ 10 = ☐
- 6 tens ÷ 1 ten = ☐
- 5 = ☐ ÷ 10
- There are ☐ tens in 40

Divide by 10

Mrs Owen has 80 sweets.

She shares them between 10 tables.

Which calculation describes the word problem?

- $80 \div 10$
- $80 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10$
- $80 - 10$

Divide by 10

Cakes are sold in boxes of 10
Joe and Orla are trying to pack the following amount of cakes into boxes.

Joe says,

Orla says,

Who is correct? Explain how you know.

Resources to support at home:

- www.timestables.co.uk
- Topmarks.co.uk
- Warrender website:
- Children
- Class pages
- Maths mastery

Questions