

Mastery Maths Parents Workshop

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Mathematics

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Does this describe the maths education you received?

Which words or phrases make maths sound exciting?

MASTERY APPROACH

Fluency: the ability to recall and apply knowledge rapidly and accurately.

Reasoning: the ability to explain mathematical thinking

Problem solving: the ability to apply knowledge to solve problems in varied contexts.

Encourages depth before new content/concept

Kahoot

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



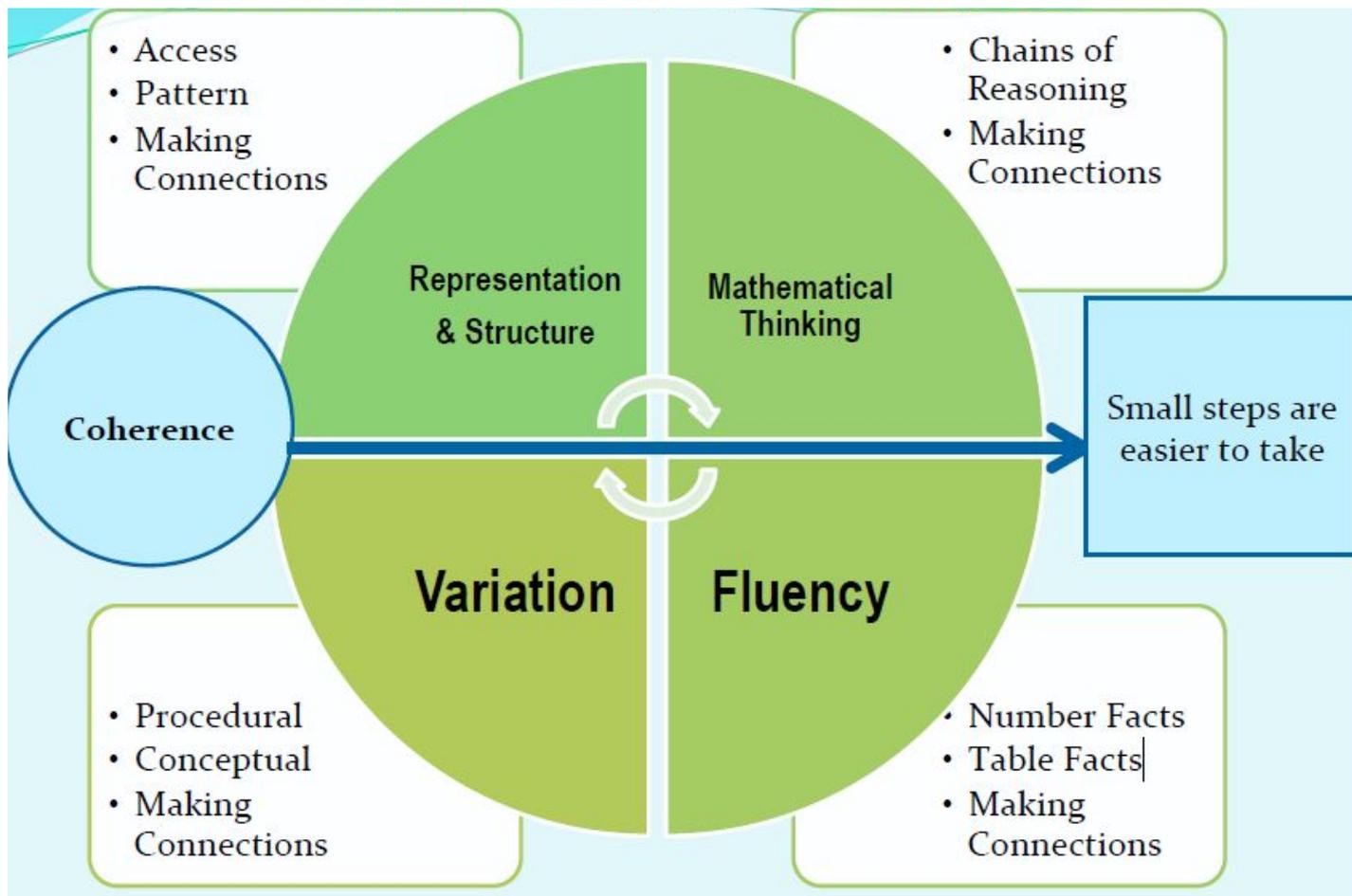
4. Children will not be racing off ahead on a different journey.

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

1. We ALL start the journey TOGETHER

We're Going on a **Maths Hunt**

Teaching for Mastery



Fluency involves

- 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

<https://www.youcubed.org/resources/what-is-number-sense/>

Basic Fact

Adding 1 and 2

Bonds to 10

Adding 10

Bridging/
compensating

Doubles

Adding 0

Near doubles

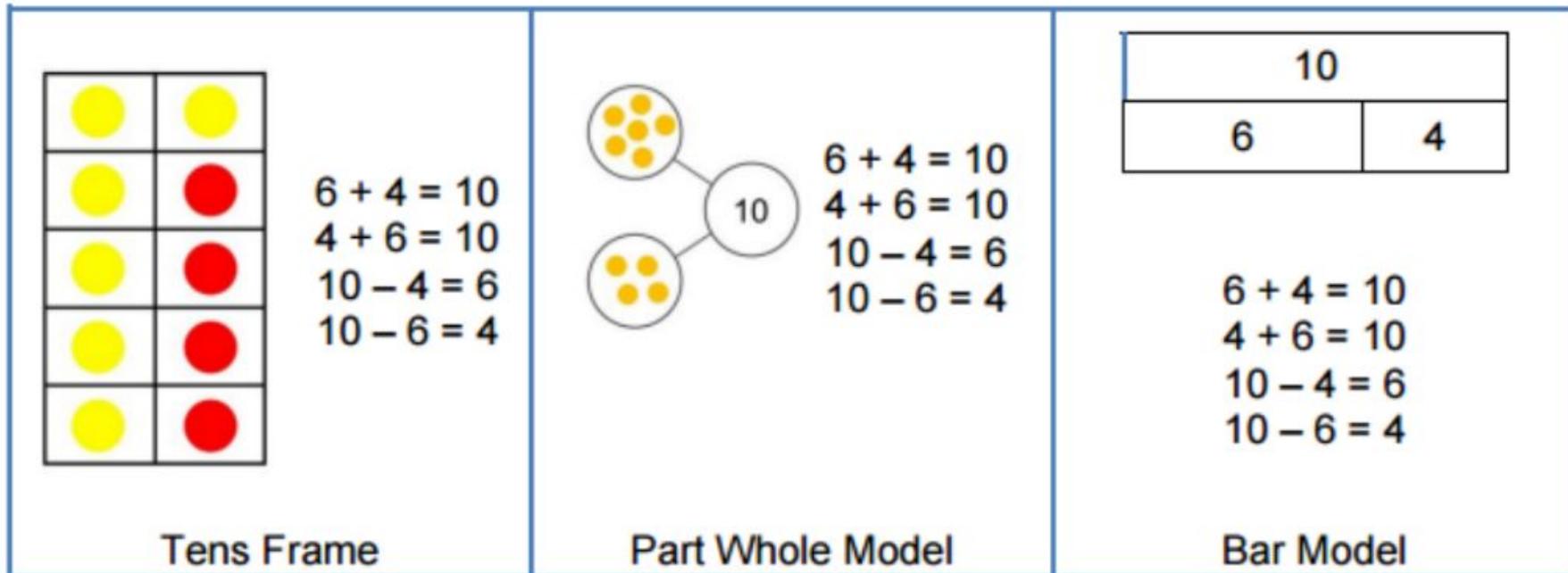
Y1 facts

Y2
facts

+	0	1	2	3	4	5	6	7	8	9	10
0	0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9	0 + 10
1	1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	1 + 10
2	2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9	2 + 10
3	3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9	3 + 10
4	4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6	4 + 7	4 + 8	4 + 9	4 + 10
5	5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5	5 + 6	5 + 7	5 + 8	5 + 9	5 + 10
6	6 + 0	6 + 1	6 + 2	6 + 3	6 + 4	6 + 5	6 + 6	6 + 7	6 + 8	6 + 9	6 + 10
7	7 + 0	7 + 1	7 + 2	7 + 3	7 + 4	7 + 5	7 + 6	7 + 7	7 + 8	7 + 9	7 + 10
8	8 + 0	8 + 1	8 + 2	8 + 3	8 + 4	8 + 5	8 + 6	8 + 7	8 + 8	8 + 9	8 + 10
9	9 + 0	9 + 1	9 + 2	9 + 3	9 + 4	9 + 5	9 + 6	9 + 7	9 + 8	9 + 9	9 + 10
10	10 + 0	10 + 1	10 + 2	10 + 3	10 + 4	10 + 5	10 + 6	10 + 7	10 + 8	10 + 9	10 + 10

Representation And Structure

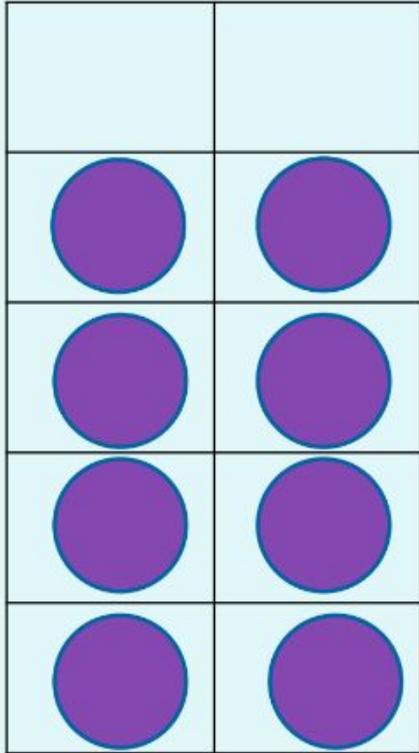
Three key images:



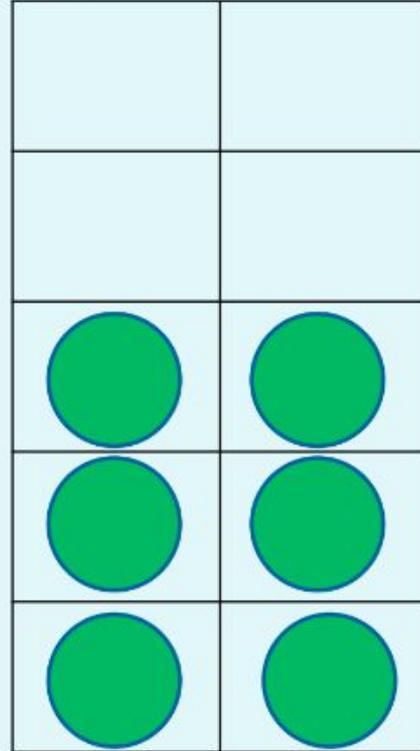
What's the same? What's different?

How would you add these numbers?

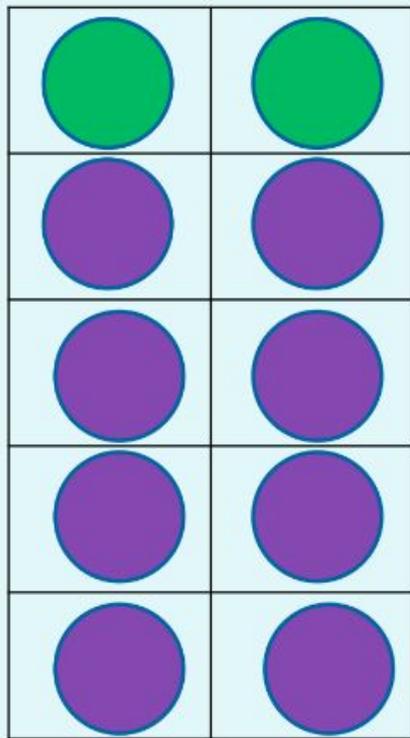
$$8 + 6 = 14$$



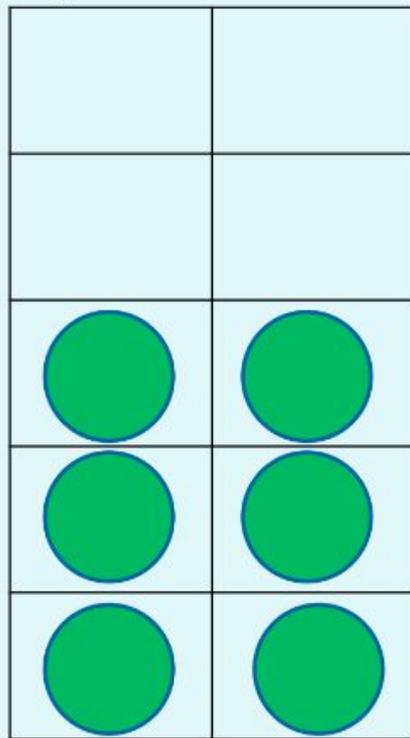
+



$$8 + 6 = 14$$

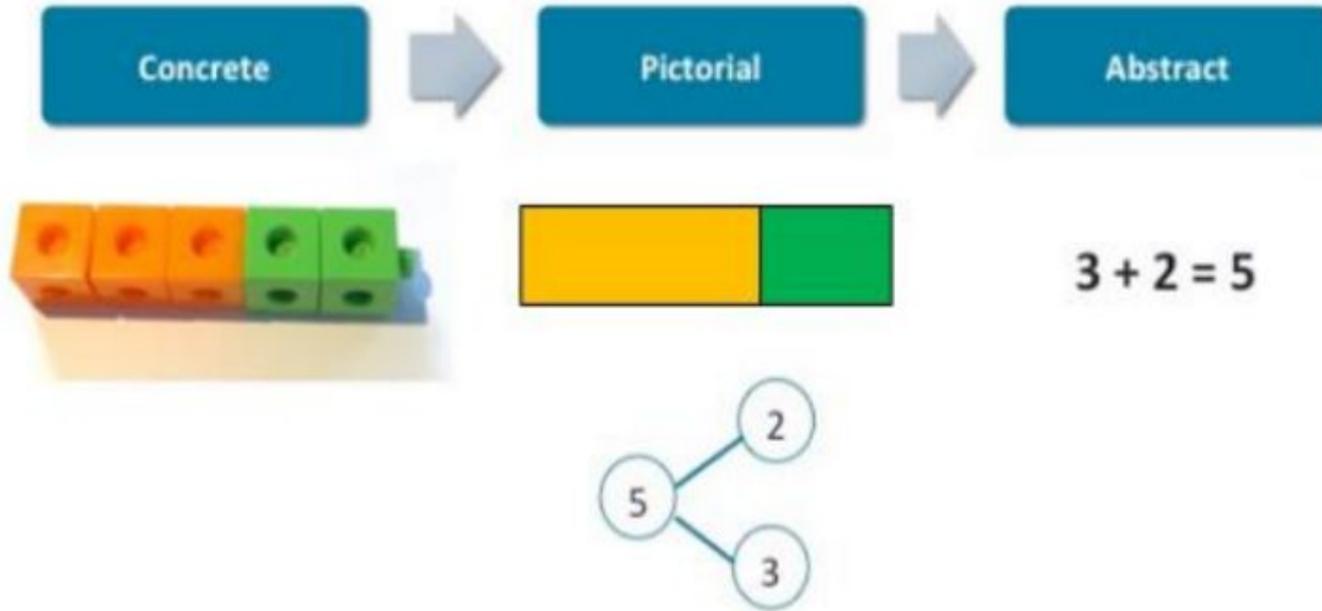


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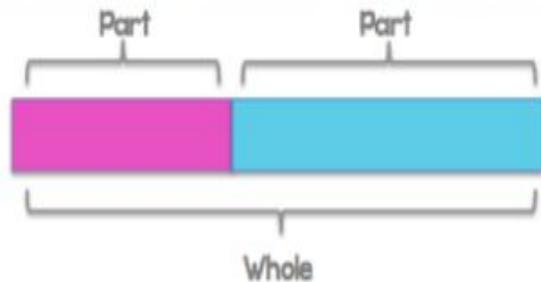
Problem Solving

CPA (Concrete -- Pictorial -- Abstract) Approach



134 girls and 119 boys took part in an art competition. How many children took part in the competition?

*Part/Part
Whole
Problems*



253 children took part in an art competition. There are 134 girls. How many boys are there?

Your turn

A set of ten cards, each showing one of the digits from 0 to 9, is divided up between five envelopes so that there are two cards in each envelope. The sum of the two numbers inside it is written on each envelope:



What numbers could be inside the "8" envelope?

- **Fluency**
- **Reasoning**
- **Problem solving**

3 Rolling activities

- Fluency -- Basic Facts
- Reasoning -- procedure
- Problem solving

Mastery of Mathematics 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**

How to help at home

Fluency:

- Basic facts
- Progression in calculation

Reasoning:

- Model your own reasoning in life! Think Aloud!
- Ask Why? (Describe> Explain> Convince> Justify> Prove)

Problem Solving

- <http://wild.maths.org/>
- Growth Mindset: Be positive!

Any Questions?

Evaluation of sessions

Video

THANK
YOU