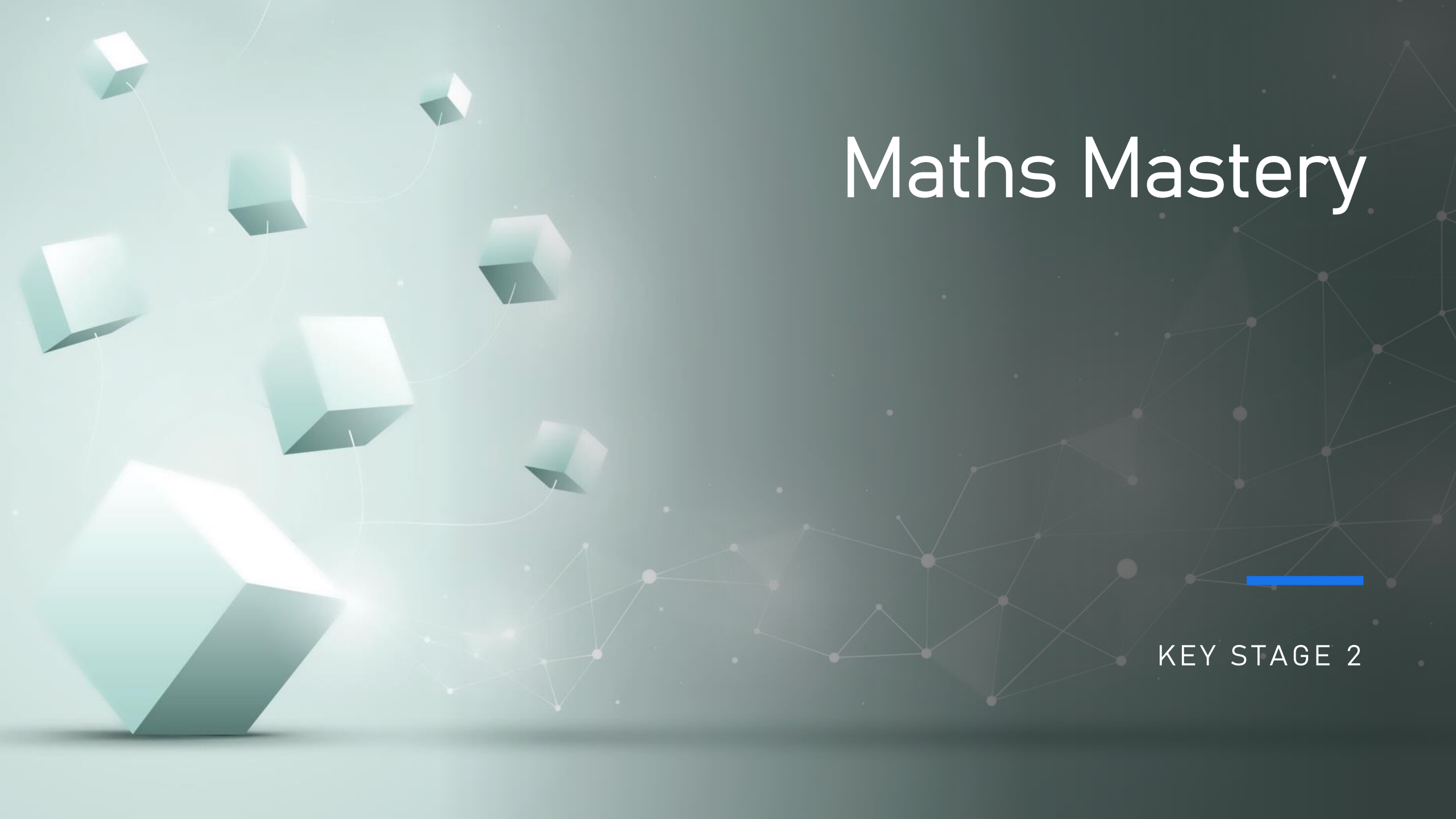


Maths Mastery

KEY STAGE 2

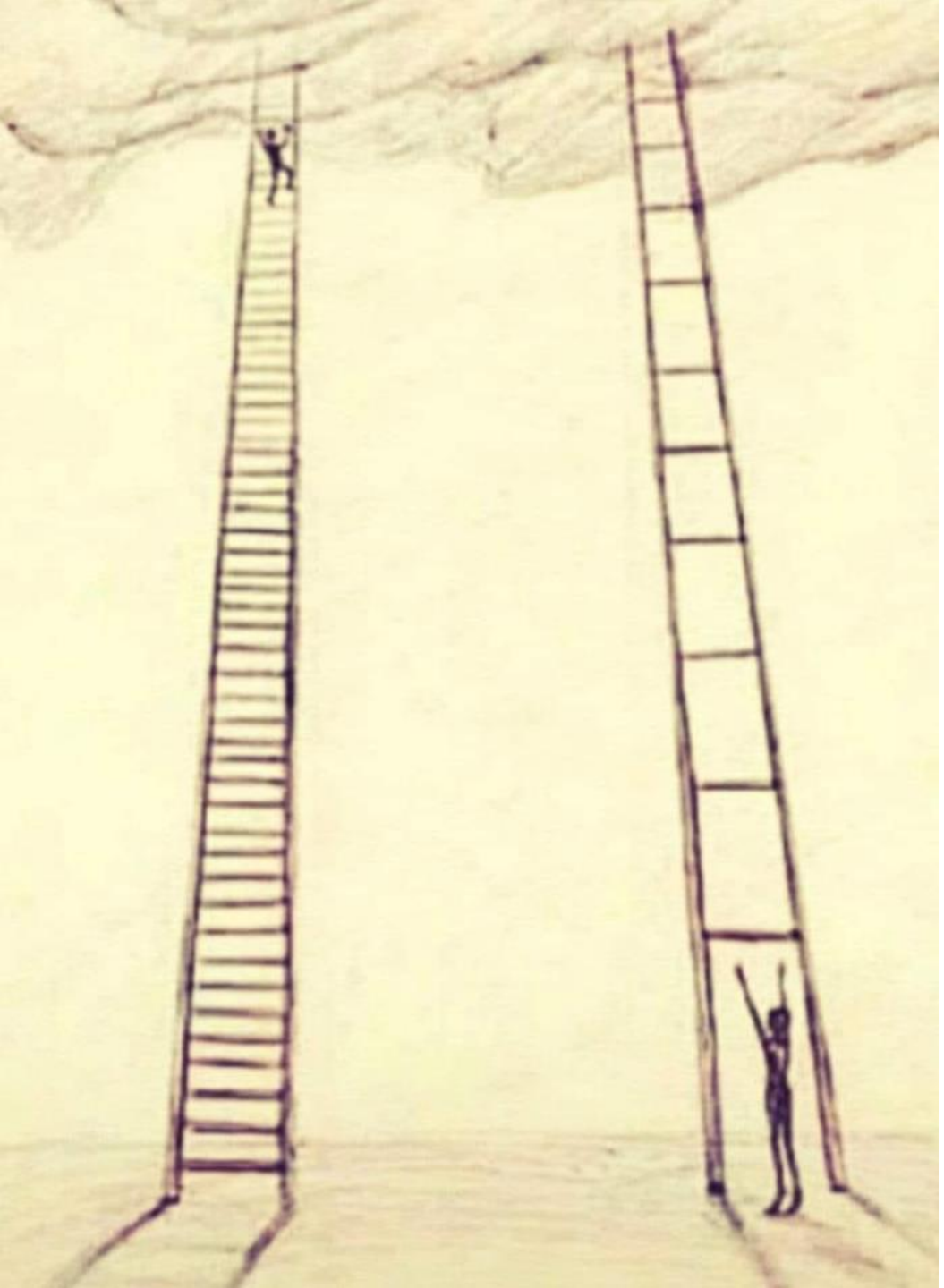
What does it mean to master something?

- I know how to do it
- It becomes automatic and I don't need to think about it- for example driving a car
- I'm really good at doing it – painting a room, or a picture
- I can show someone else how to do it.

What is maths mastery?

Maths Mastery is an approach to teaching mathematics that helps children develop a **deep, long-term, and secure understanding** of mathematical concepts. It encourages children to:

- Think critically and reason mathematically
- Understand concepts before moving on
- Use different methods to solve problems
- Apply maths to real-life situations



The importance of small steps

Small focused steps

A teaching for mastery lesson should start at the point where all children can access and then move the class forward together

Avoiding overload

Teaching for mastery breaks down the mathematics into “thinkable chunks” and joins them together

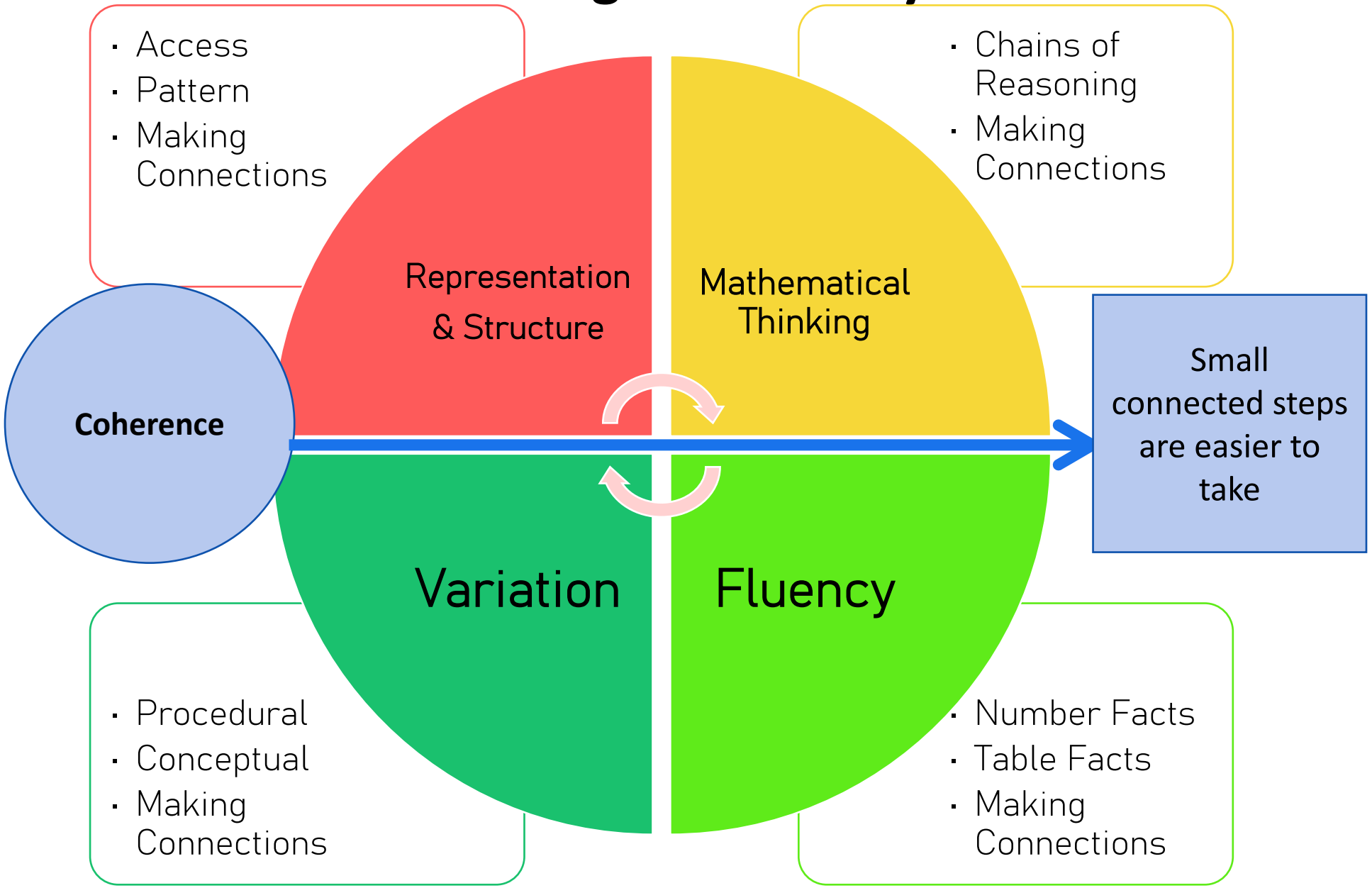
Memorisation

The careful ordering, focus and repetition provided through the lesson supports embedding in the long term memory.

Staying focused

We remember what we think about. A teaching for mastery lesson is designed to provoke thinking and make meaning. Making meaning will help us to remember.

Teaching for Mastery



Fluency

- Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics.

Variation

- The purpose of variation is to draw closer attention to a key feature of a mathematical concept or structure through varying some elements while keeping others constant. Through variation the teacher focuses thinking and discussion on the key feature in question.

Representation and Structure

- Teachers carefully select different representations of maths e.g. part – part – whole model / tens frame etc.
- The intention is to support pupils in ‘seeing’ the mathematics, rather than using the representation as a tool to ‘do’ the mathematics.
- These representations become mental images that students can use to think about and discuss mathematics, supporting them to achieve a deep understanding of mathematical structures and connections.

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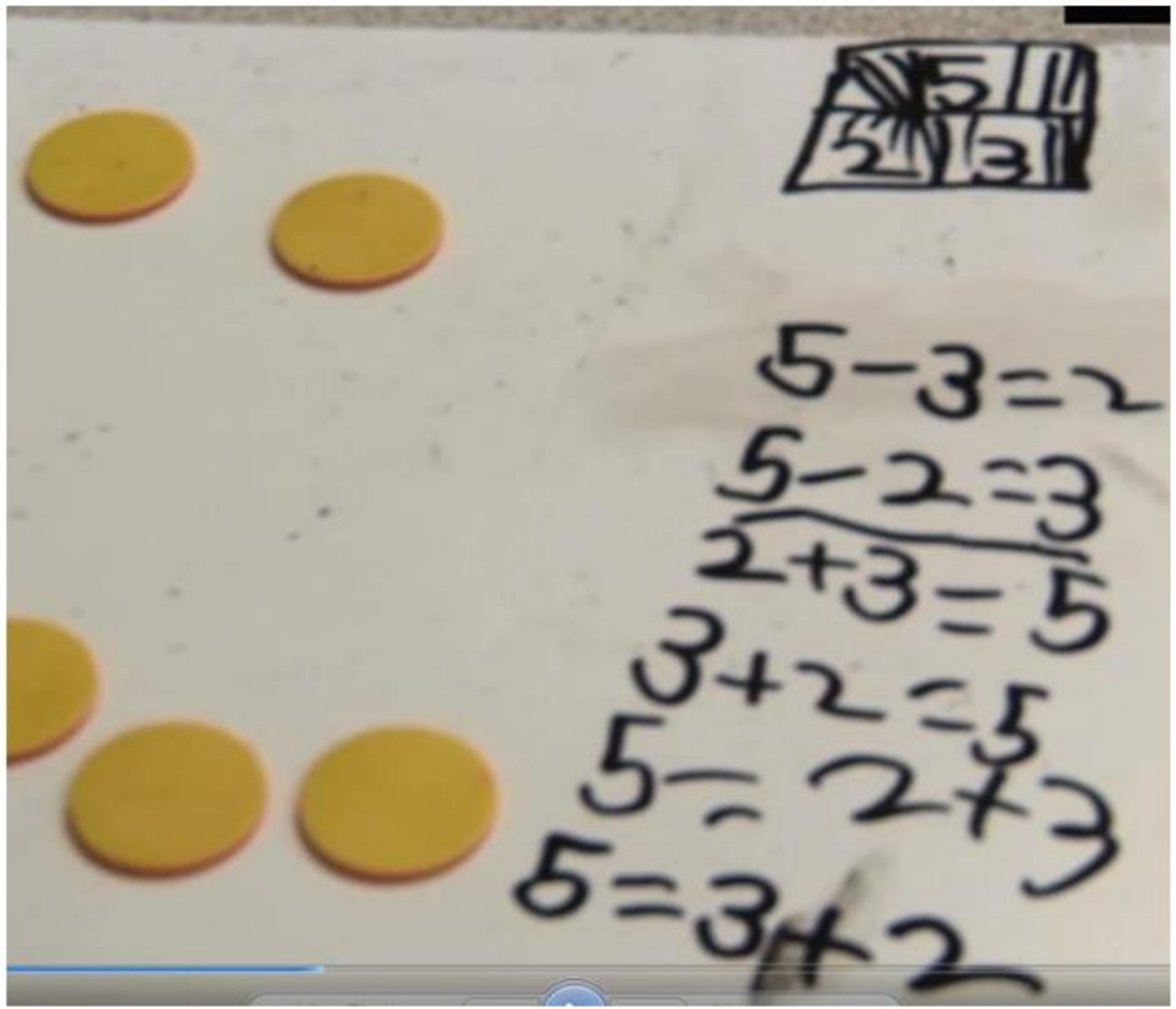
Part Part Whole Structure



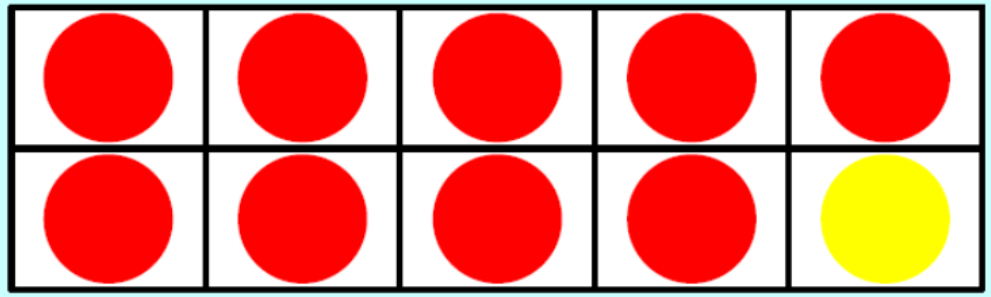
5	
3	2

7	
2	5

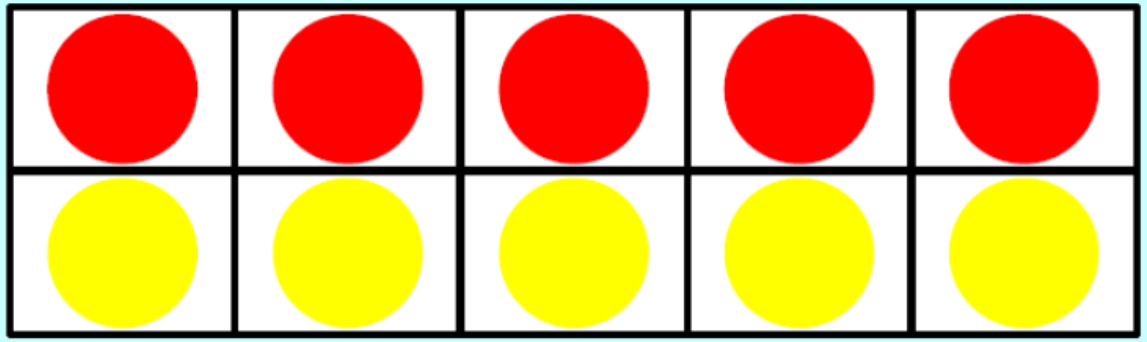
7	
1.9	5.1

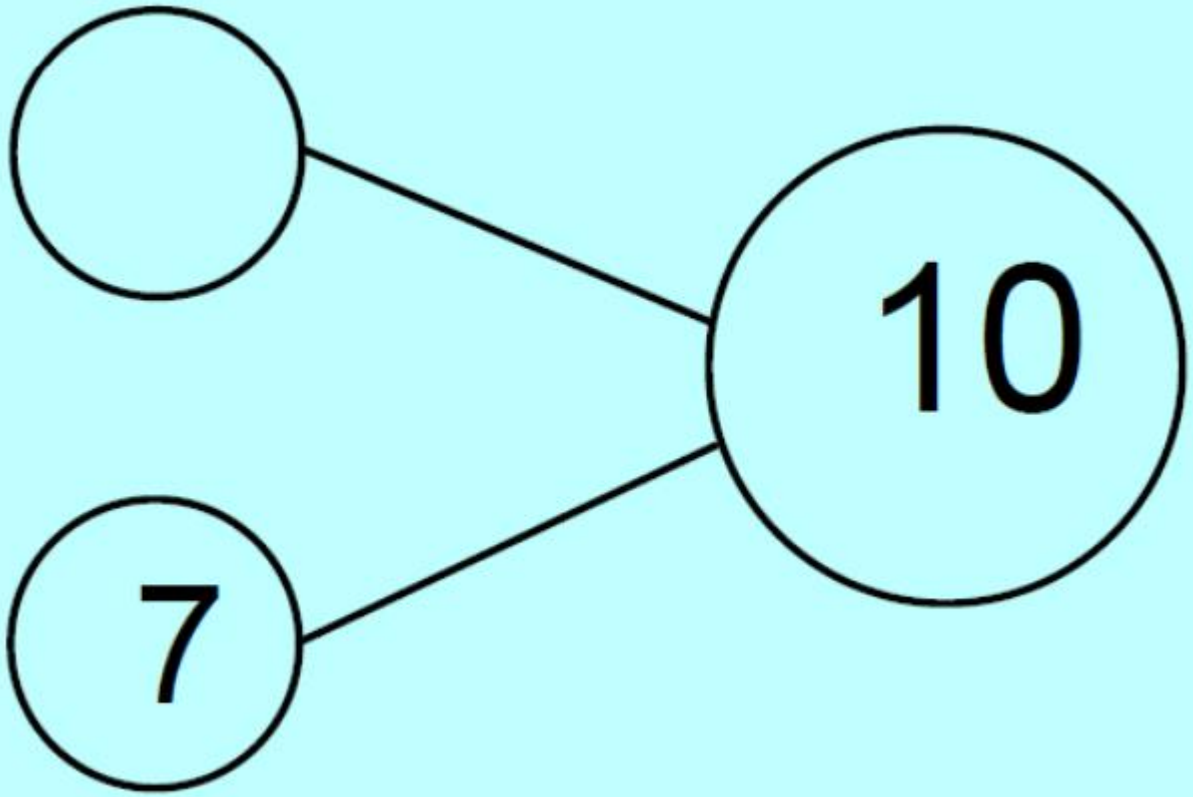
7.4	
1.7	5.7

C	
a	b



Say: _____ plus _____ equals ten





8 + 2

Numberblocks

Mathematical Thinking

- Mathematical Thinking is central to how pupils learn mathematics and includes looking for patterns and relationships, making connections, conjecturing, reasoning, and generalising.
- Pupils should actively engage in mathematical thinking in all lessons, discussing and communicating their ideas using precise mathematical language.

Coherance

- This weaves through the other four big ideas.
- Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply and communicate in a range of contexts.

 What Your Child Will Learn in KS2

Year 3–4 Focus:

- Place value up to 1,000 (Y3) and 10,000 (Y4)
- Addition and subtraction using formal written methods
- Times tables up to 12 × 12 (automatic recall by end of Y4)
- Multiplying and dividing larger numbers
- Introduction to fractions and decimals
- Measuring time, length, mass, and volume
- Recognising shapes, symmetry, angles

 What Your Child Will Learn in KS2

Year 5–6 Focus:

- Place value up to 1,000,000 (Y5) and 10,000,000 (Y6)
- Long multiplication and division
- Fractions, decimals, and percentages (including equivalences)
- Algebra and ratio (Y6)
- More complex problem solving and reasoning
- Converting units, area, perimeter, and volume
- Coordinates, translation, and reflection

🎯 The CPA Approach: Concrete – Pictorial – Abstract

- This is central to maths mastery… For example 23 x 4 =

Stage	Description	Example
Concrete	Using real objects (counters, blocks)	Use base 10 to build the number
Pictorial	Drawing pictures or visual representations	Use a place value grid
Abstract	Using numbers and symbols	20 x 4 = 80 then 3 x 4 = 12 80 + 12 = 92

Bar Modelling

- A visual way to represent problems, especially helpful in:
- Addition and subtraction (especially using inverse)
- Fractions and ratios
- Word problems

Mathematical Thinking

Mathematical Talk

- Children are expected to explain *how* they solved a problem and *why* their method works.

How You Can Help at Home:

Fun Home Activities:

At Home	Maths Learning
Cooking	Weighing, measuring, fractions
Shopping	Estimating costs, calculating change
Travel	Reading timetables, calculating durations
DIY Projects	Measuring, using scale, area and perimeter
Sports	Keeping scores, calculating averages

💡 How You Can Help at Home:

📌 General Tips:

- **Be positive about maths**: Avoid saying “I was never good at maths.”
- **Encourage effort**: Mistakes help build understanding.
- **Talk maths**: Ask them to explain how they solved something.

🧠 Encouraging a Growth Mindset

💬 Key Questions to Ask Your Child

- Help deepen their thinking with open-ended questions like:
- “How do you know that?”
- “Can you explain it in a different way?”
- “What strategy did you use?”
- “Could you draw or model your answer?”

🧠 Encouraging a Growth Mindset

- **Praise persistence**: “You worked hard on that!”
- **Celebrate mistakes**: “That’s how we learn.”
- **Focus on strategies**: “Let’s try a different method.”

🛠️ Useful Resources

📱 Recommended Online Resources:

- **TT Rock Stars** – Times tables fluency
- **Hit the Button** – Quick-fire number facts
- **White Rose Maths** – Free parent resources
- **BBC Bitesize KS2 Maths**
- **NRICH Maths** (https://nrich.maths.org) – Challenge-based activities
- **MathsFrame** – Games and test practice
- **SATS Companion** - (Year 6 only)

🏁 Final Thought

- “Mathematics is not about numbers, equations, computations, or algorithms: it is about understanding.”
  – *William Paul Thurston*
- With your encouragement and involvement, your child can build the confidence and curiosity needed to thrive in maths and beyond.