

Your child is doing their Maths homework. They have shown you that they can successfully add together two 3-digit numbers. Which question would you use to challenge their thinking?

$$\begin{array}{r} 271 \\ + 142 \\ \hline 413 \\ \hline 1 \end{array}$$

Option 1

Give them two 4-digit numbers to add together.

$$\begin{array}{r} 5226 \\ + 1492 \\ \hline \\ \hline \end{array}$$

Option 2

Find the missing digits when adding together two 3-digit numbers.

$$\begin{array}{r} 4\boxed{}8 \\ + 17\boxed{} \\ \hline 580 \end{array}$$



MATHS CURRICULUM EVENING

Chesterton CE Primary School
Thursday 1st May 2025



Building Firm Foundations For Life

Our intent – We believe that...

Every child
can achieve in
Maths and
become
resilient,
confident and
independent
learners.

Maths is about
what something is
and what it is
not.

Mistakes are
important
learning
points.

Maths is about
knowing how and
why something
works.

Maths is fun and
includes concrete,
pictorial and abstract
representations.

Maths is
about creating
deep and
meaningful
connections,
one
progressive
steps at a
time.

Mathematical
talk and
questioning is
essential.

Maths is
about
thinking
creatively
and getting
answers in
different
ways.

What does this look like at Chesterton CE Primary School?

Mastering
Number
sessions

Main Maths
lessons

Extra support
sessions

Celebrating
Maths

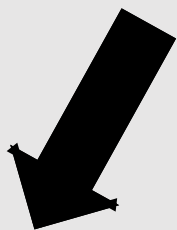
Application to
other subjects

Speed Tables

Times Tables
Rock Stars

Mathletics

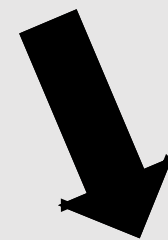
Our Maths curriculum is built from the three core concepts of mathematics.



Fluency



Reasoning



Problem
solving

Mastery approach

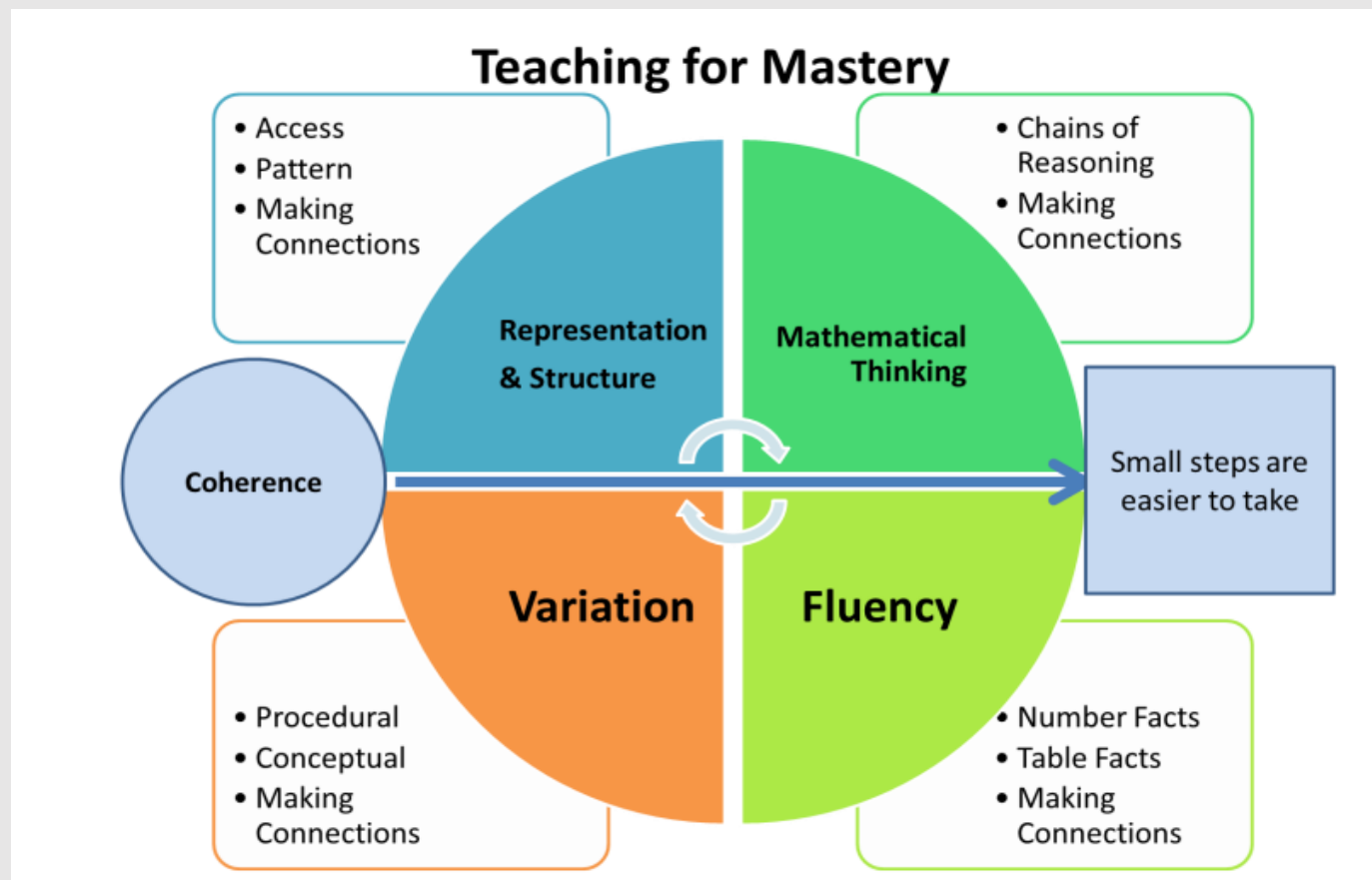
To expose children to fluency, reasoning and problem solving, we follow the **Mastery approach**.

This is where we believe that all children must develop a deep understanding of mathematics so that their future learning is built on solid foundations that strong connections can be made from.



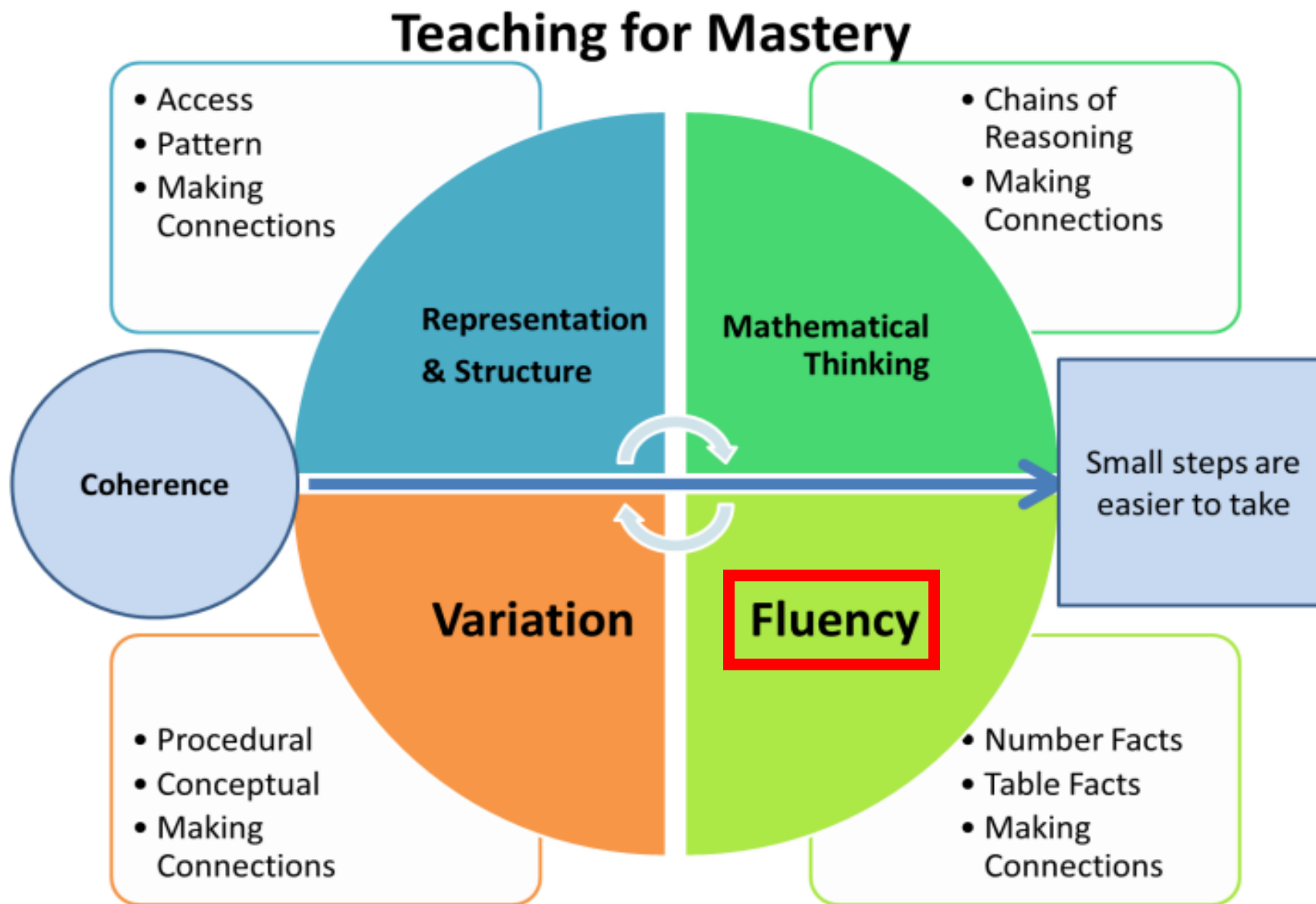
Building Firm Foundations For Life

There are '5 big ideas' in the Mastery approach.



You will be able to see how these areas may appear in a lesson in your child's classroom later.

Mastery approach

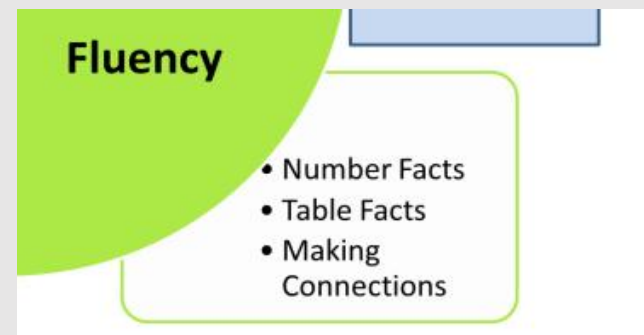


Fluency

Fluency allows children to understand how numbers and concepts work, and how to recognise and change them in different contexts. It allows them to be flexible, efficient and accurate with numbers, which reduces cognitive load.

As part of this, children's basic number facts are developed. This includes:

- accurate and rapid recall of basic number bonds to 20
- accurate and rapid recall of times-tables facts



Thinking point

If your child knows the number bond $3 + 7 = 10$, what other facts can they derive from this?

I know that $3 + 7 = 10$ so I also know that...

$$7 + 3 = 10$$

$$7 = 10 - 3$$

$$10 - 3 = 7$$

$$3 = 10 - 7$$

$$10 - 7 = 3$$

$$10 = 3 + 7$$

$$10 = 7 + 3$$

I also know that...

$$13 + 7 = 20$$

$$23 + 7 = 30$$

$$3 + 17 = 20$$

$$53 + 7 = 60$$

$$0.3 + 0.7 = 1$$

$$0.03 + 0.07 = 0.1$$

$$30 + 70 = 100$$

$$300 + 700 = 1,000$$

In this same way, if your child knows that $2 \times 3 = 6$, they also know that:

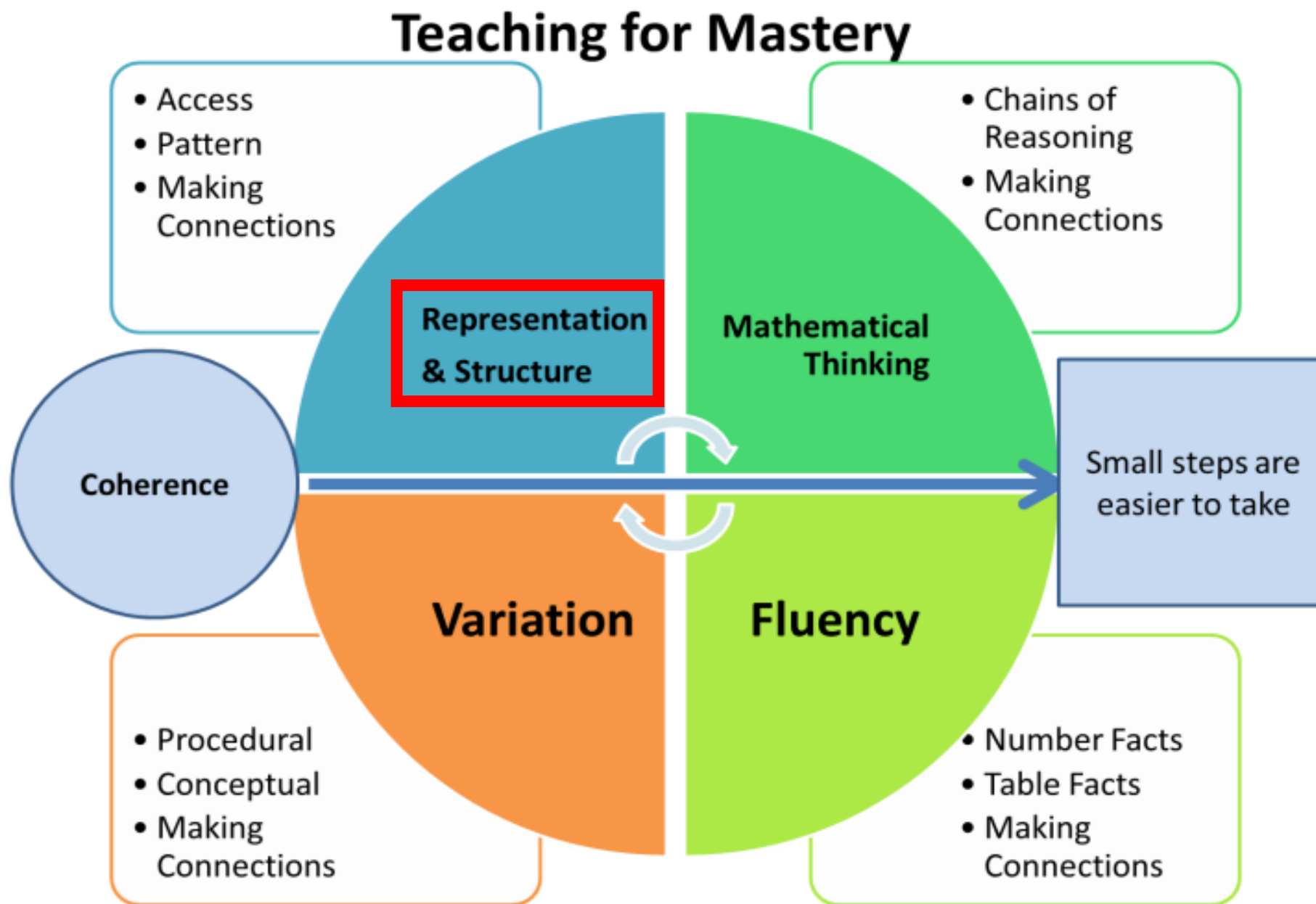
$$20 \times 3 = 60$$

$$2 \times 30 = 60$$

$$20 \times 30 = 600$$

$200 \times 3 = 600$ and so on as well as related division facts, such as $6 \div 3 = 2$

Mastery approach



Mathematics is an abstract subject.

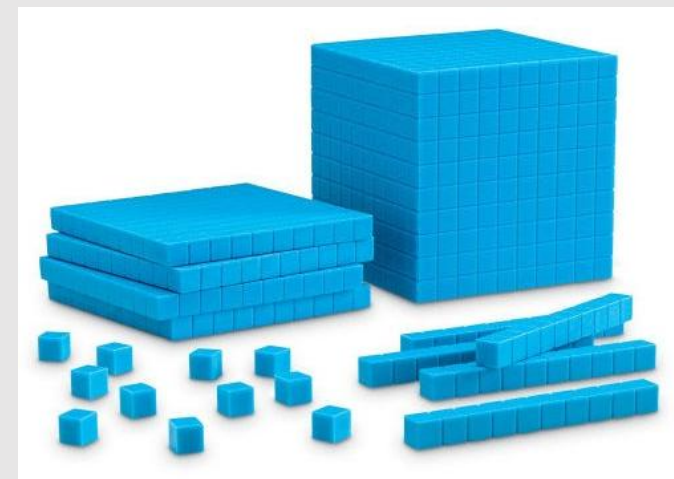
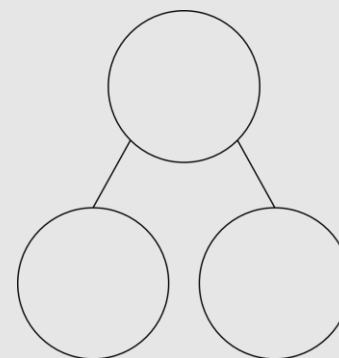
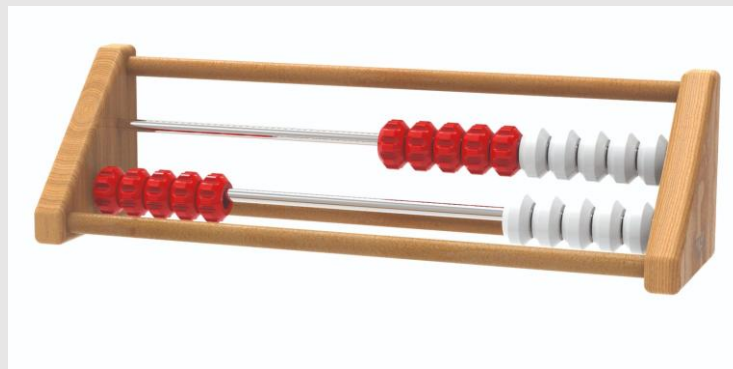
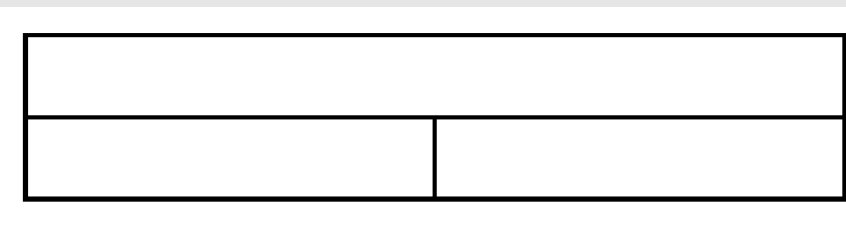
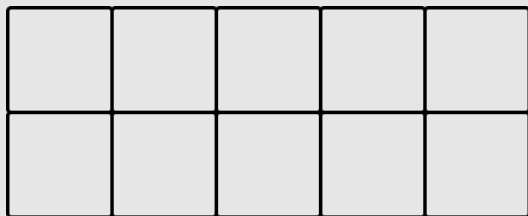
We use representations and structures to provide access to new concepts and develop children's understanding.

This includes manipulatives, models and images.

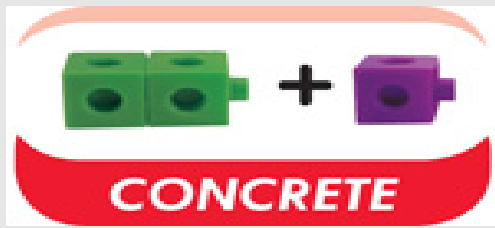
- Access
- Pattern
- Making Connections

Representation & Structure

Do you recognise any of these representations and structures?



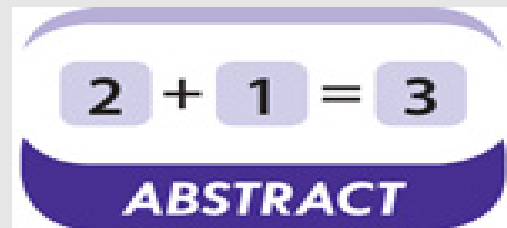
Representation & Structure



Concepts are introduced through hands-on experiences with manipulatives.



Children visualise the concept and it is represented through models like bar models.



Children use abstract numbers and symbols alongside the context in order to understand what they mean.

Let's look at an example from a Year 6 classroom.

Pears are more expensive than lemons.

4 pears and 5 lemons cost £3.35.

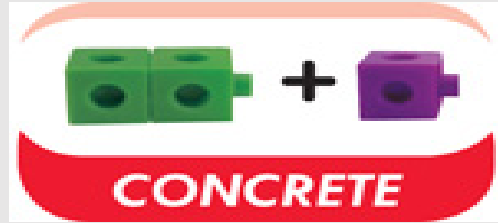
4 pears and 2 lemons cost £2.30.

How much does 1 lemon cost?

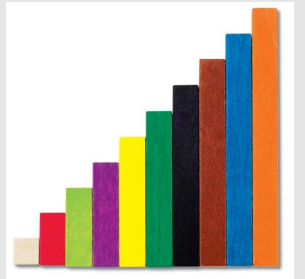
How might you start to break this down?



Pears are more expensive than lemons. 4 pears and 5 lemons cost £3.35.
4 pears and 2 lemons cost £2.30. How much does 1 lemon cost?



Make the question out of Cuisenaire rods.

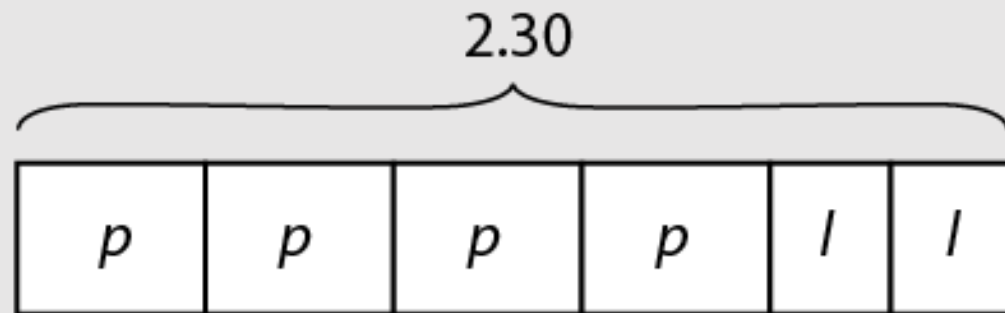
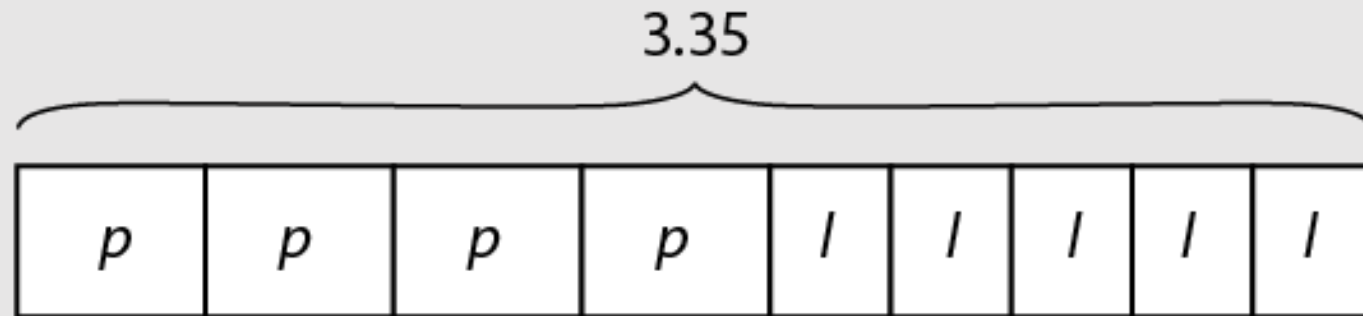


What do you notice? What is the same / different?

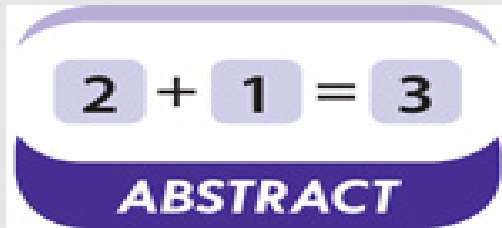
Pears are more expensive than lemons. 4 pears and 5 lemons cost £3.35. 4 pears and 2 lemons cost £2.30. How much does 1 lemon cost?



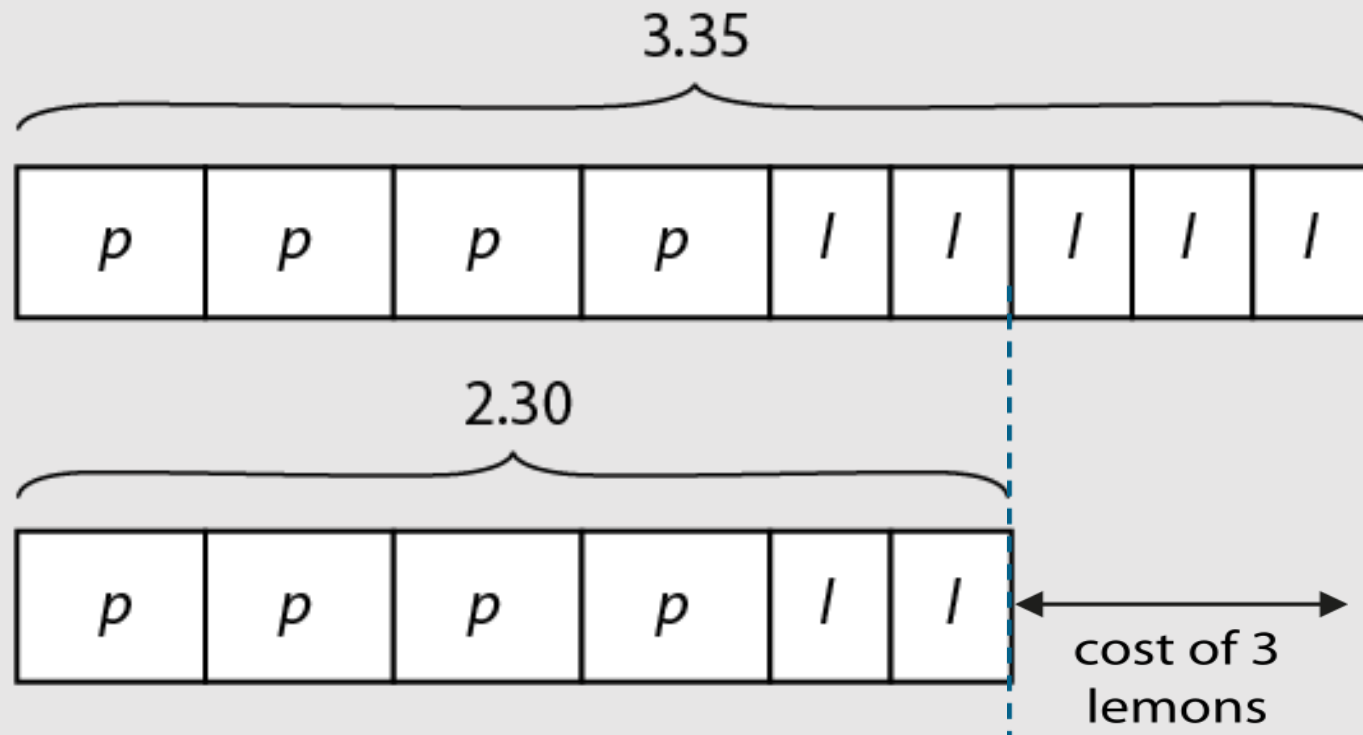
Represent as a bar model.



Pears are more expensive than lemons. 4 pears and 5 lemons cost £3.35.
4 pears and 2 lemons cost £2.30. How much does 1 lemon cost?



Use numbers and symbols.

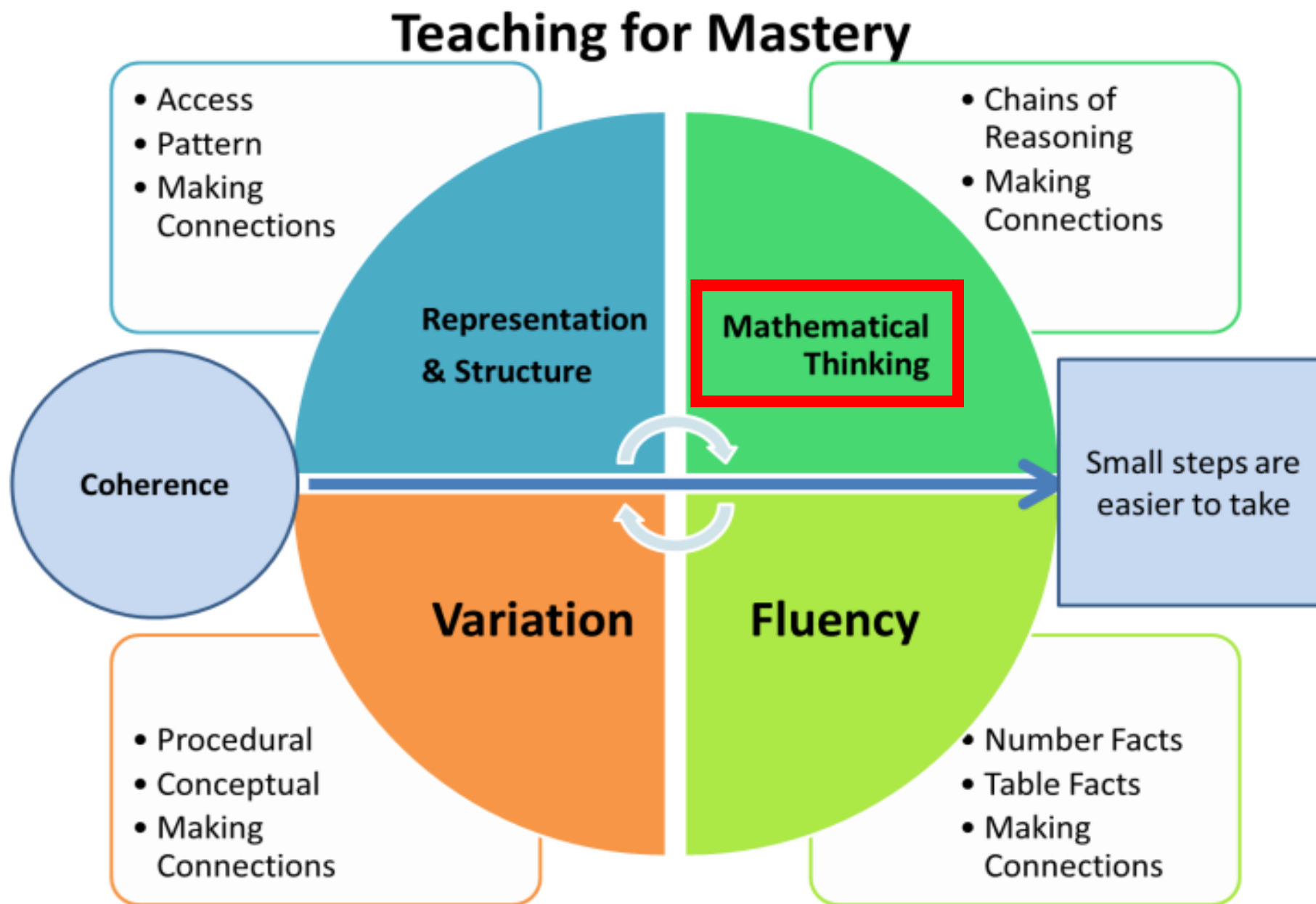


Cost of 3 lemons is
 $£3.35 - £2.30 = £1.05$

Cost of 1 lemon is
 $£1.05 \div 3 = 35p$

One lemon costs 35p.

Mastery approach

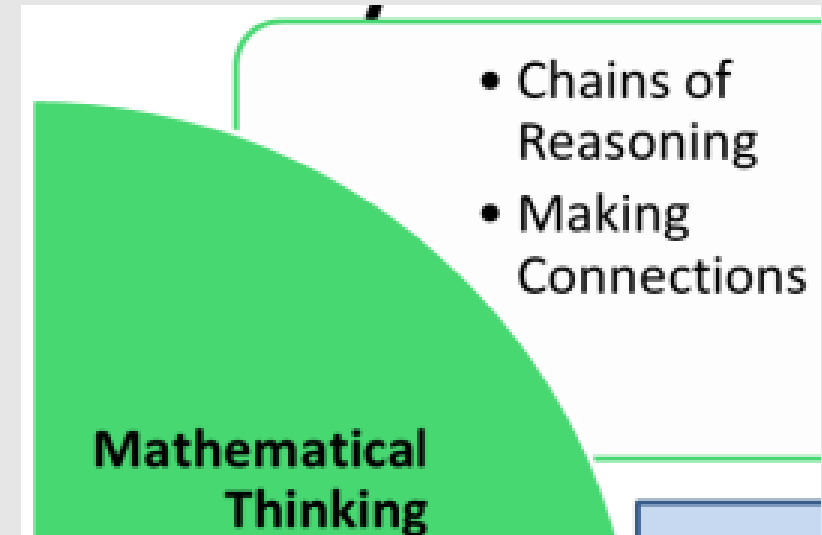


Mathematical Thinking

Mathematical thinking involves:

- looking for patterns
- looking for relationships and connecting ideas
- reasoning logically, explaining, conjecturing and proving.

This develops deep understanding as the children are active in discussions, rather than receiving concepts passively.



Mathematical Thinking

What do
you notice?

What is the
same?

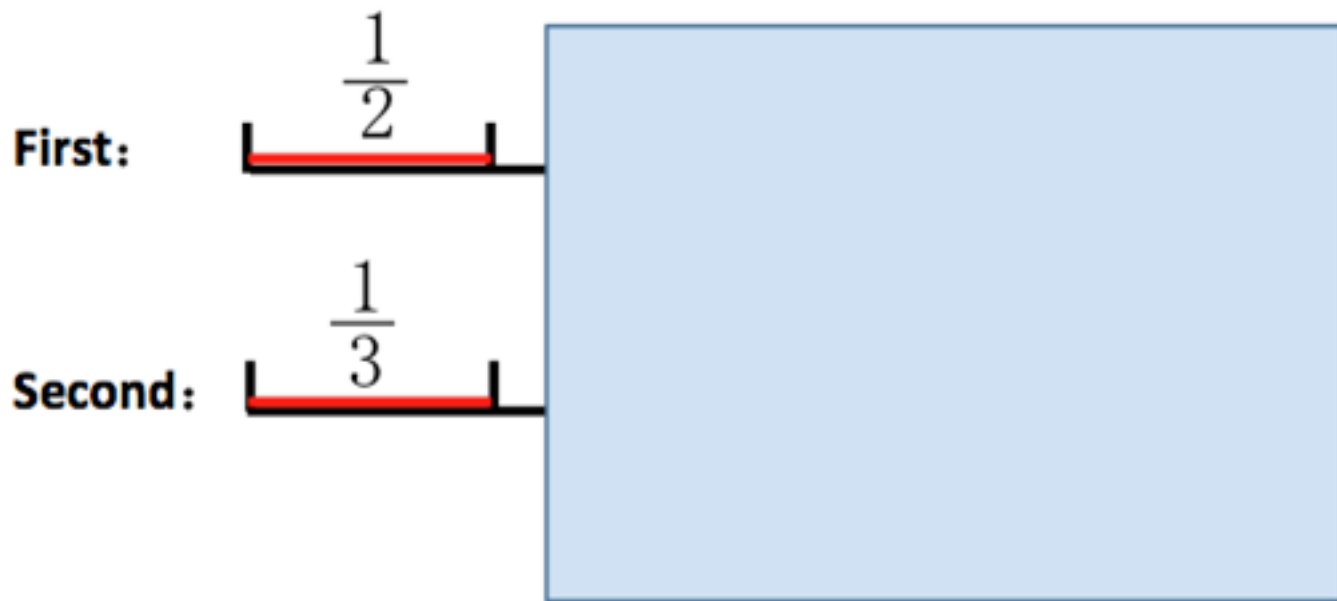
What is
different?

I know that
_ because
_.

I support /
challenge _
because _.

Mathematical Thinking

Think: Which line is longer?



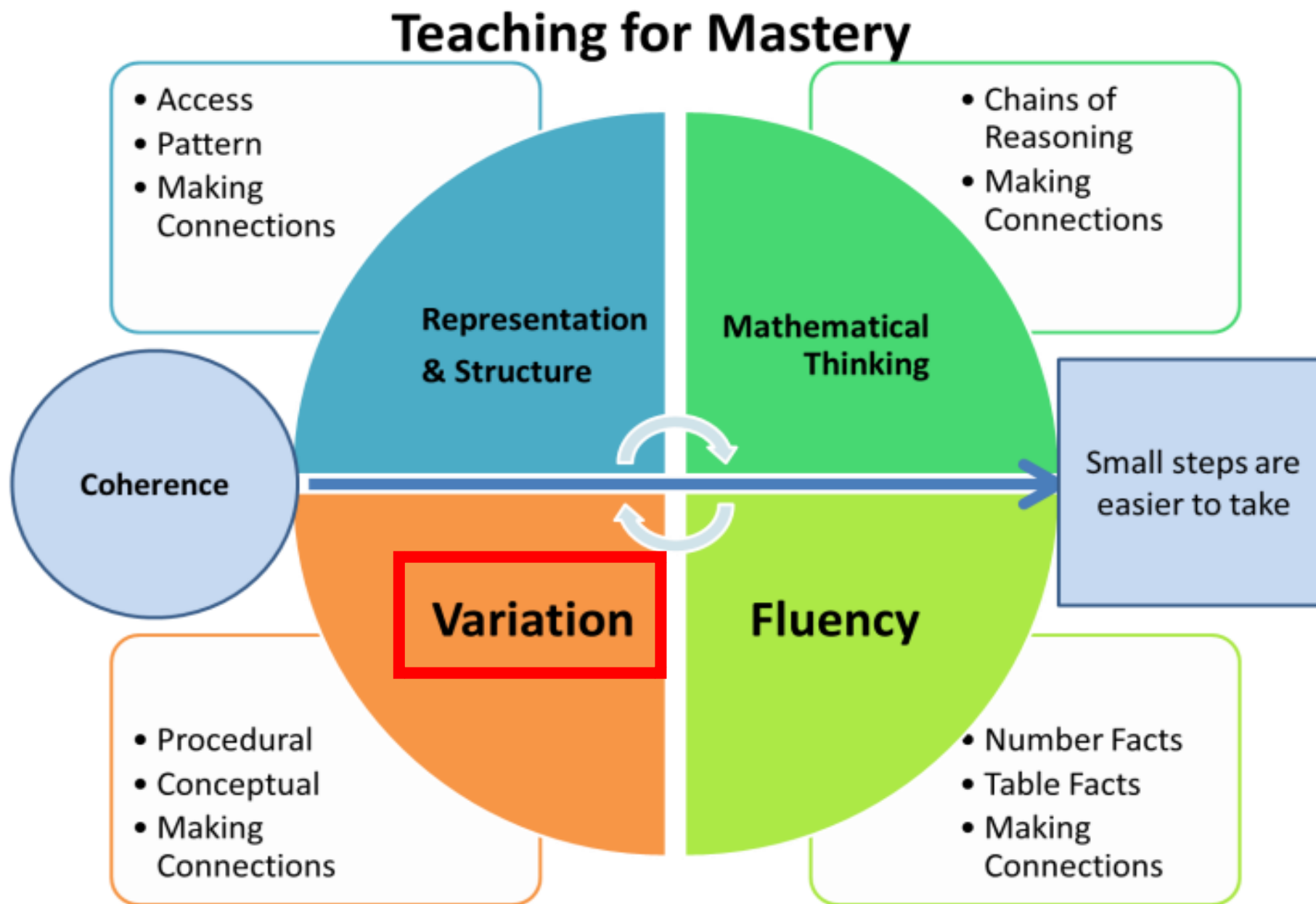
What do you notice?

What is the same?

What is different?

What do you know?

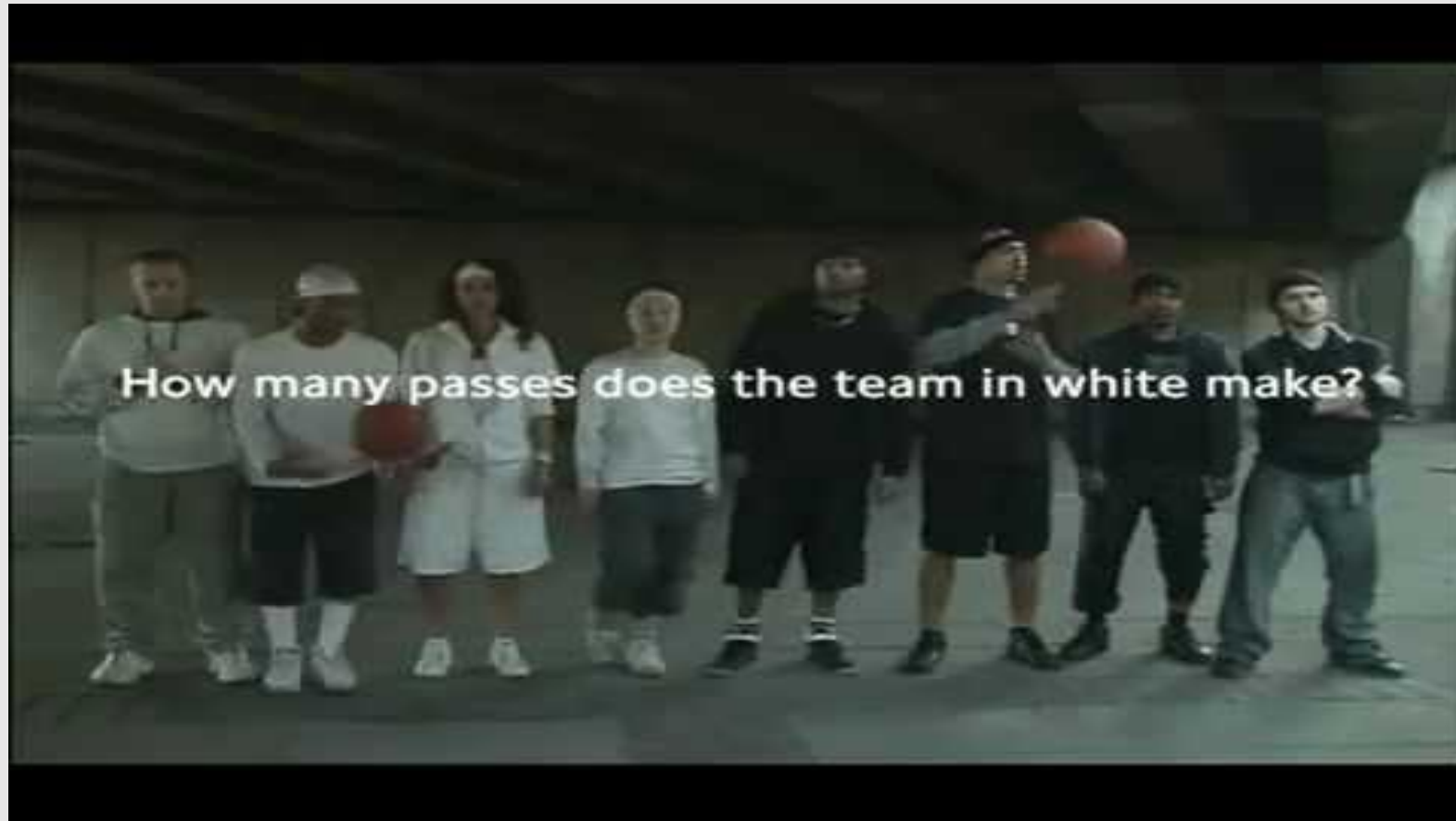
Mastery approach



Variation is deliberate, small changes that draw attention to the concept being learnt.

Variation

- Procedural
- Conceptual
- Making Connections



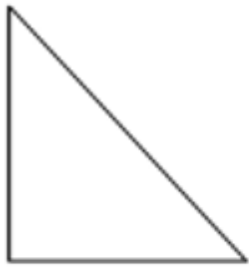
We cannot pay attention to lots of things at the same time!

Examples being taught need to be structured carefully to draw attention to a particular point.

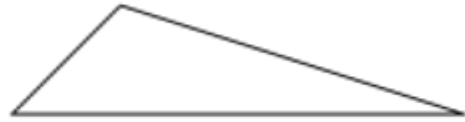
Draw a triangle.

What can you tell me about it?

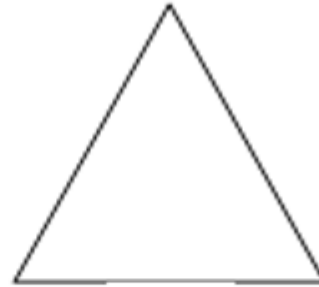
Are all of these triangles?
Think about what is the same and what is different.



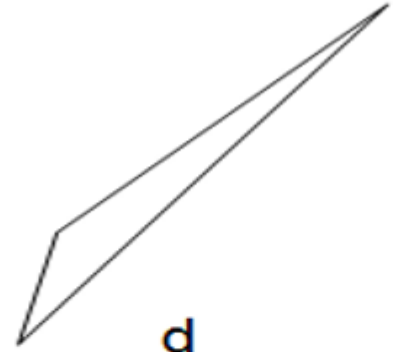
a



b



c



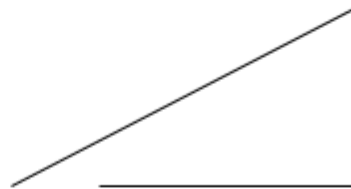
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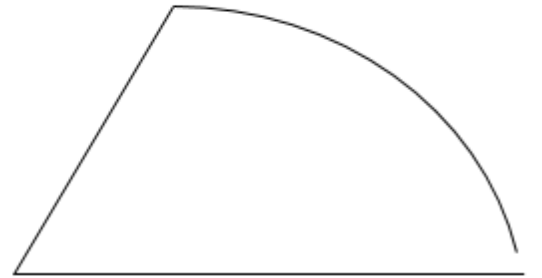
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f

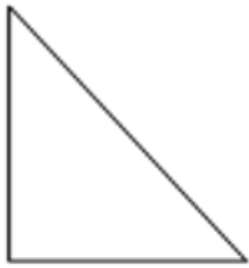


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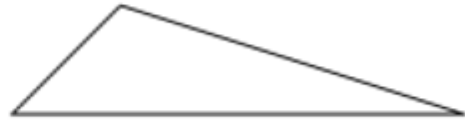


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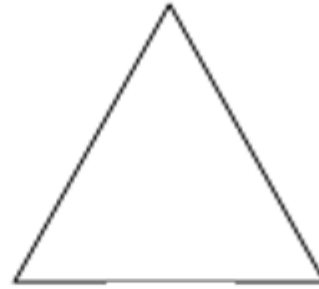
Conceptual variation highlights what something IS
and what it IS NOT.



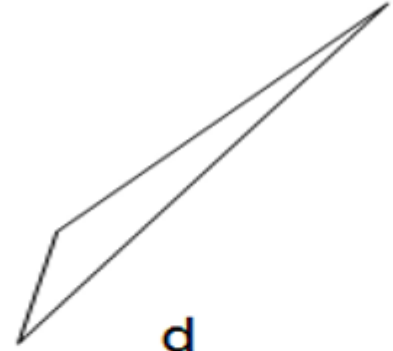
a



b



c



d



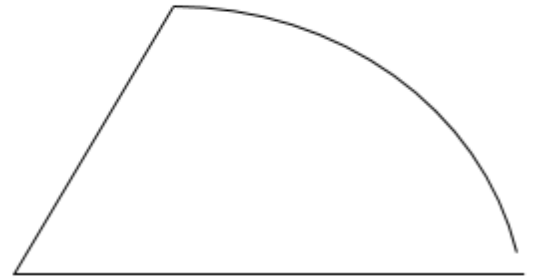
e



f

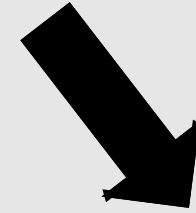
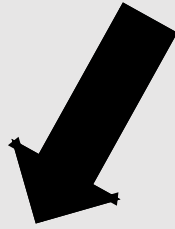


g



h

Procedural variation strategically varies one thing at a time to draw attention to the structure of a concept.



Do you notice anything about the digits when you add 10?

$$127 + 10 = 137$$

$$137 + 10 = 147$$

$$147 + 10 = 157$$

$$157 + 10 = 167$$

Do you notice anything about the digits when you add 10?

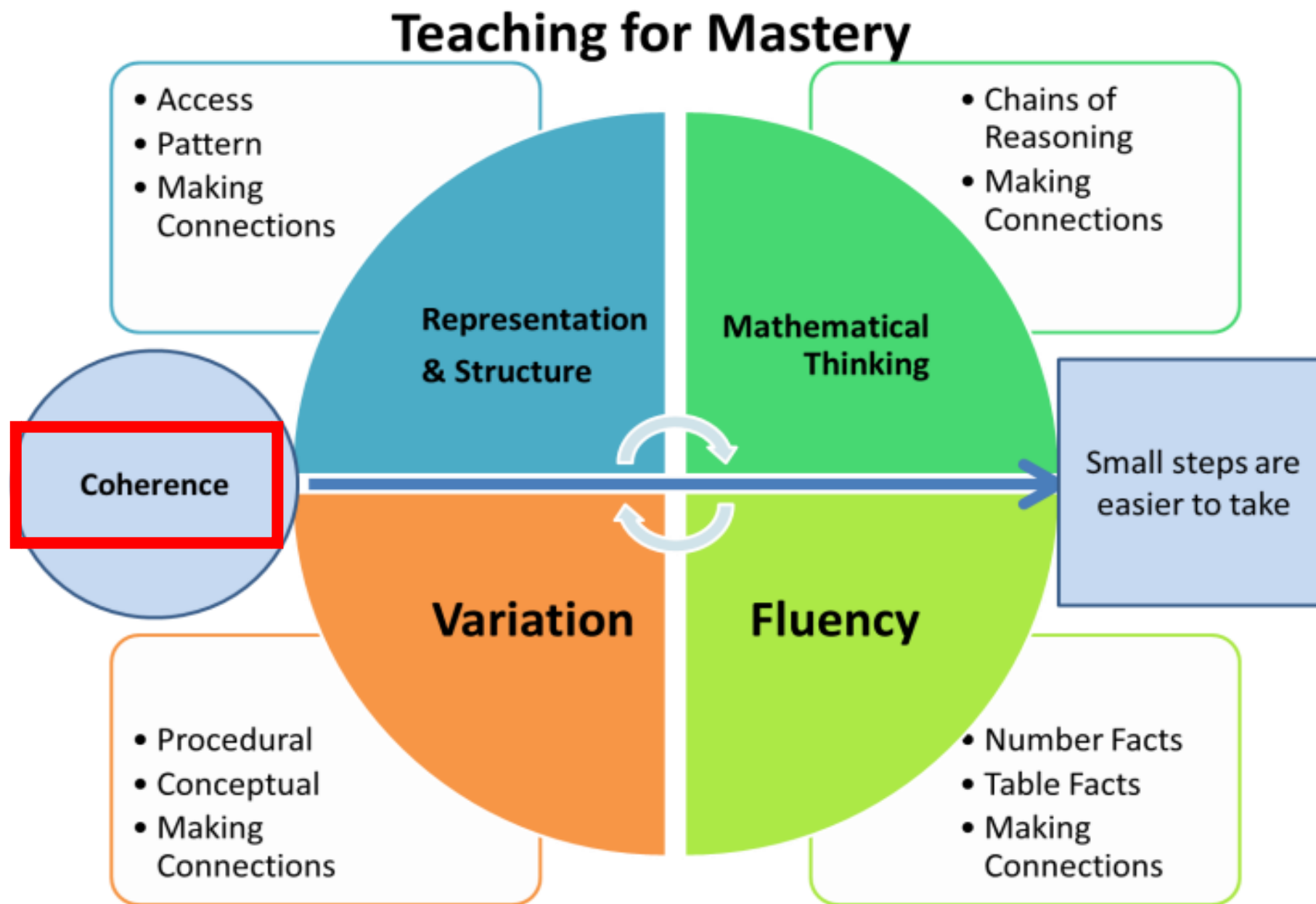
$$227 + 10 = 237$$

$$826 + 10 = 836$$

$$728 + 10 = 738$$

$$225 + 10 = 235$$

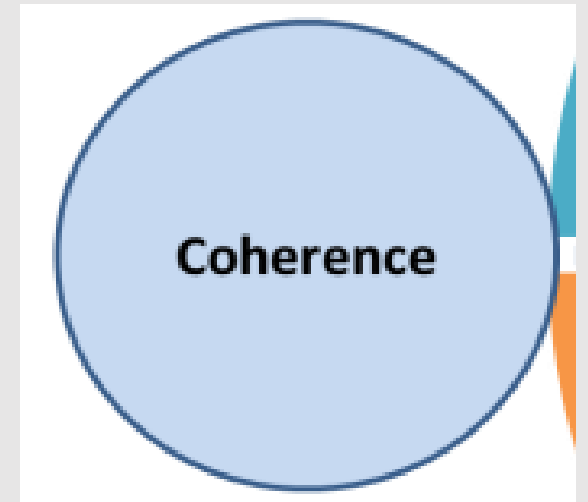
Mastery approach



Small, progressive steps

Sequencing concepts so that connections can be made

Deep and sustainable learning



How to support at home

Make Maths
fun.

Avoid negative
conversations
surrounding
Maths.

Encourage
your child to
explain their
thinking
using
accurate
mathematical
vocabulary.

Encourage your child
to work out a
question in a
different way.

Build fluency skills,
such as number bonds
and times tables.

Work
through
mistakes.

Ask your child to
make a purposeful
mistake and explain
it.

Encourage
your child
to say
what
something
is NOT, as
well as
what it is.

How to support at home

Always, sometimes, never

Is the answer always, sometimes, or never true? Can you create some 'sometimes, always, never' statements based on today's learning?

If this is the answer, what is the question?

Can you work backwards and create your own problem?

What else do I know?

How does today's learning link to other learning in maths? Can you make any connections with other topics?

Messy misconceptions!

What misconceptions might someone have about our learning today? Is there a misconception that you have addressed in your learning today?

Odd one out (and why?)

Can you give three examples (or questions) based on your learning today and explain which is the odd one out (and why)?

Hard and easy

Can you create your own question based on today's learning which is tricky to work out the answer to? Can you create one with an easy solution? Explain why.

Convince me

Using today's mastery point, can you give an example to convince me that today's mastery point is true.

Peculiar and obvious

Can you think of a question based on today's learning which gives an obvious answer? Can you think of a question which gives a peculiar answer? Why is it strange?

**What's the same?
What's different?**

Create two questions based on today's learning. What's the same? What's different? Explain your answers.

A good explanation...

Can you write an explanation of today's learning? How would you explain it to your partner? Can you give an example to help?

A mindful mistake!

Can you answer one of today's questions incorrectly then explain why somebody may have made that mistake?



We now invite you to see what this looks like in your child's classroom.

We are happy to discuss any questions that you may have.



Building Firm Foundations For Life