

REMAT



# Mathematical FOUNDATIONS

Securing foundational knowledge EYFS and beyond...



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To go fast, row slowly.

Norman Vincent Peale

quote fancy

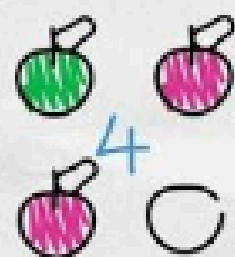


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## EYFS Maths - Numbers

Department for Education



Make numbers



Watch on  YouTube

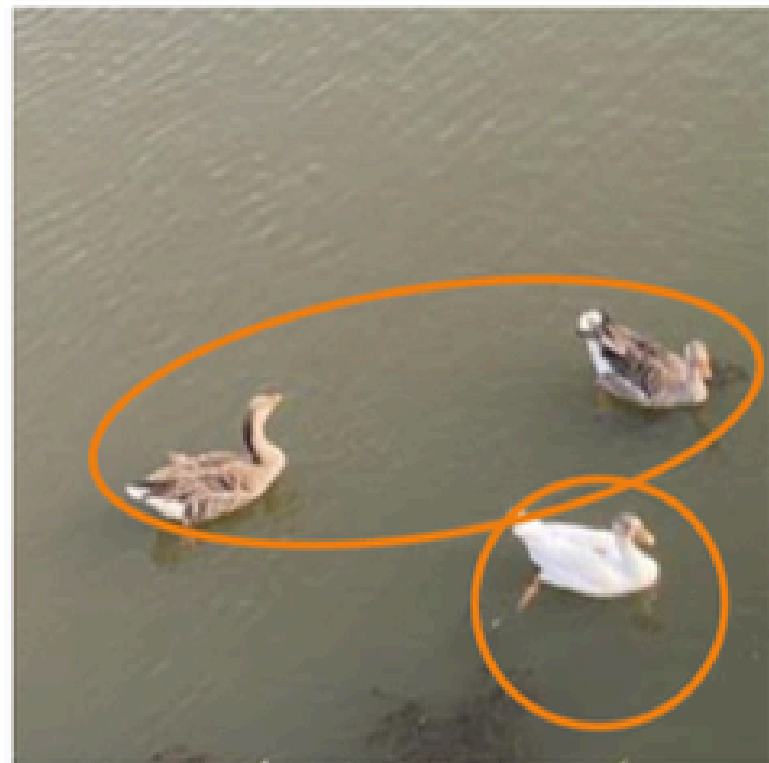
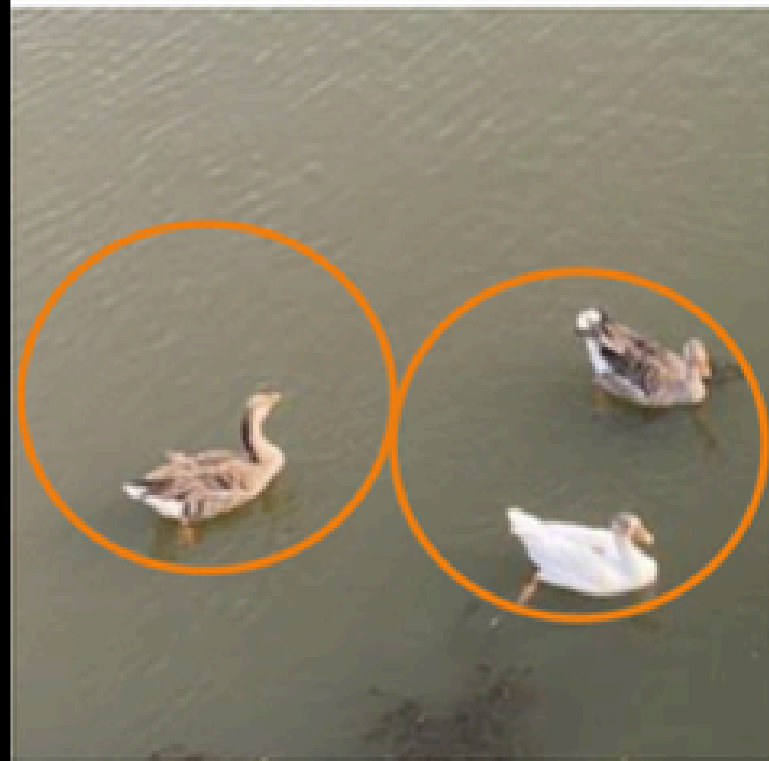
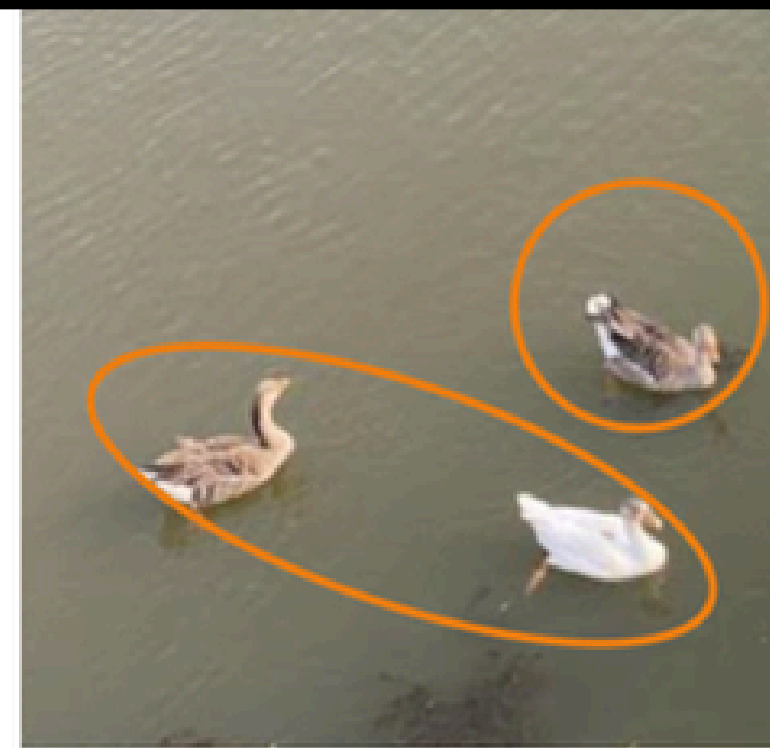


What do you notice?

What is the same?

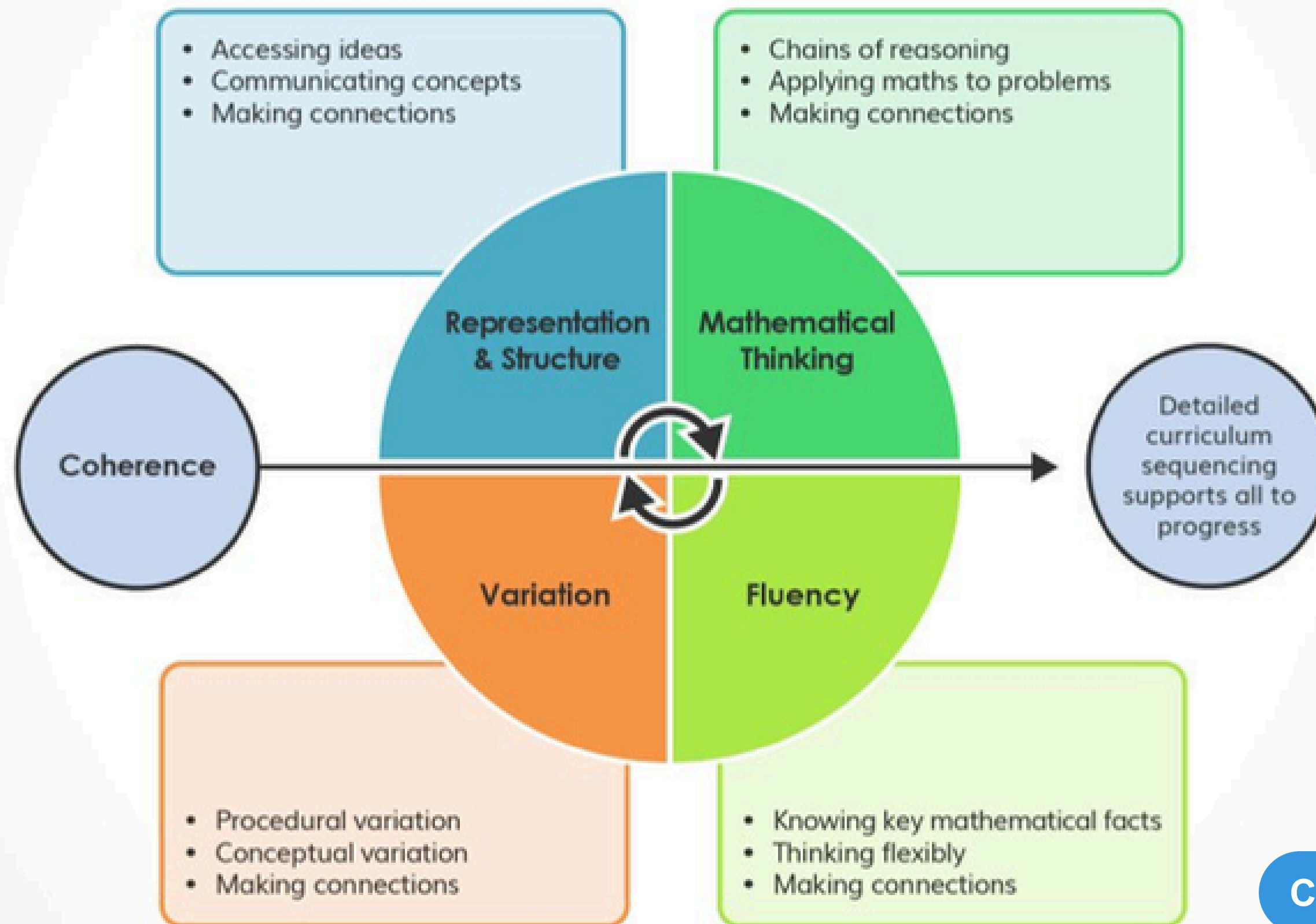
What is the  
different?





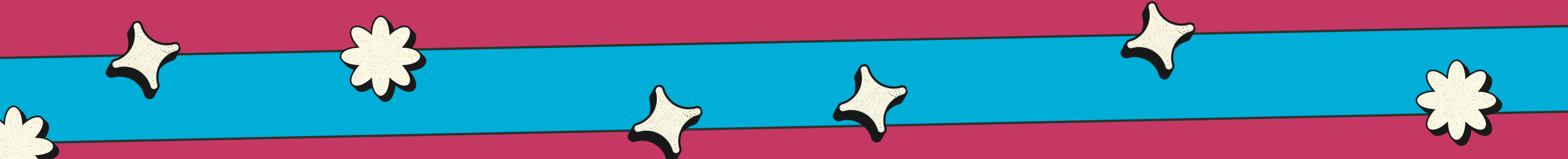
# Teaching for Mastery

## Five Big Ideas



[CLICK HERE](#)

# What Does the Framework Say



Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

# Nursery Expectations

## Development Matters

- Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').
- Recite numbers past 5.
- Say one number for each item in order: 1,2,3,4,5.
- Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
- Show 'finger numbers' up to 5.

- Experiment with their own symbols and marks as well as numerals.
- Solve real world mathematical problems with numbers up to 5.
- Compare quantities using language: 'more than', 'fewer than'.
- Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.

# Reception Expectations

## Development Matters

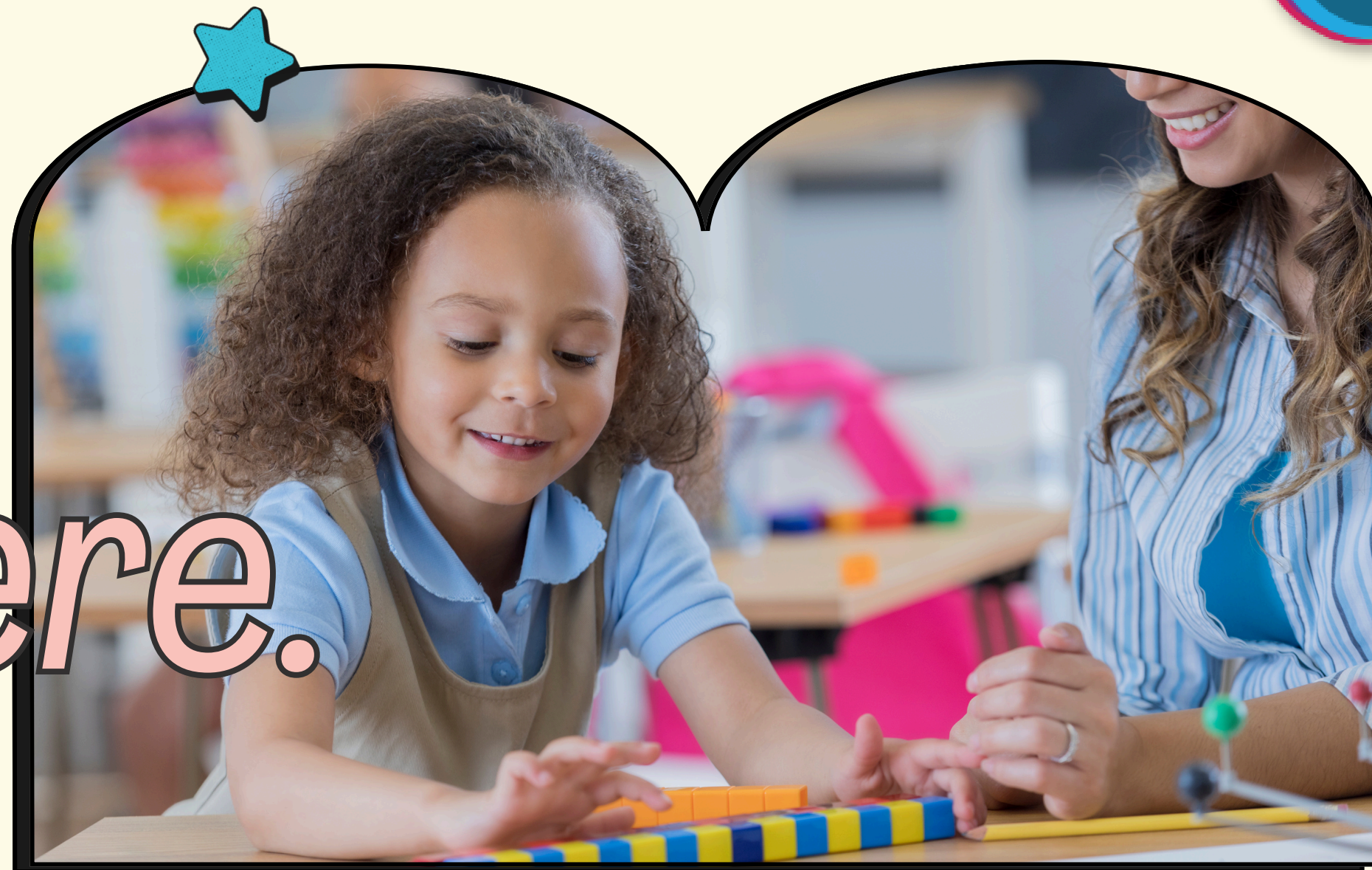
- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond ten.
- Compare numbers.

- Explore the composition of numbers to 10.
- Automatically recall number bonds for numbers 0–5 and some to 10.
- Understand the ‘one more than/one less than’ relationship between consecutive numbers.



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# Maths is *everywhere.*

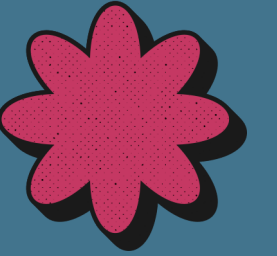


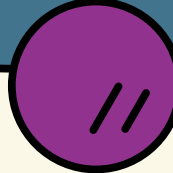
When did you allow  
children to explore maths  
in everyday routines last  
week?



Children will begin to understand regular daily routines, like  
snack time and going-home time, and how to use numbers  
to describe things.

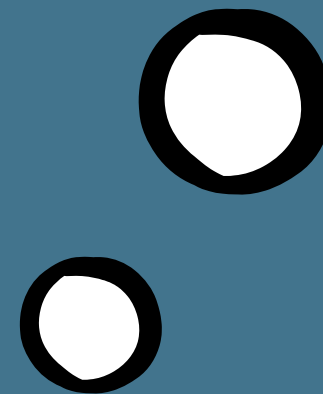
# Perceptual vs Conceptual Subitising



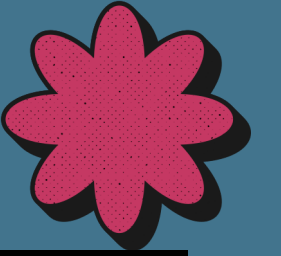
- 
- 
- Step 1: Partner A close eyes. Partner B place exactly 4 counters on the table in an irregular, random shape.
  - Step 2: Partner A open eyes. Record the exact split-second it takes to state the number without counting. (Perceptual Subitising limit).
  - Step 3: Now repeat with a different quantity, this time put the items into a ten frame.
- 

Think about executive function and working memory  
What is the positive impact of structure?

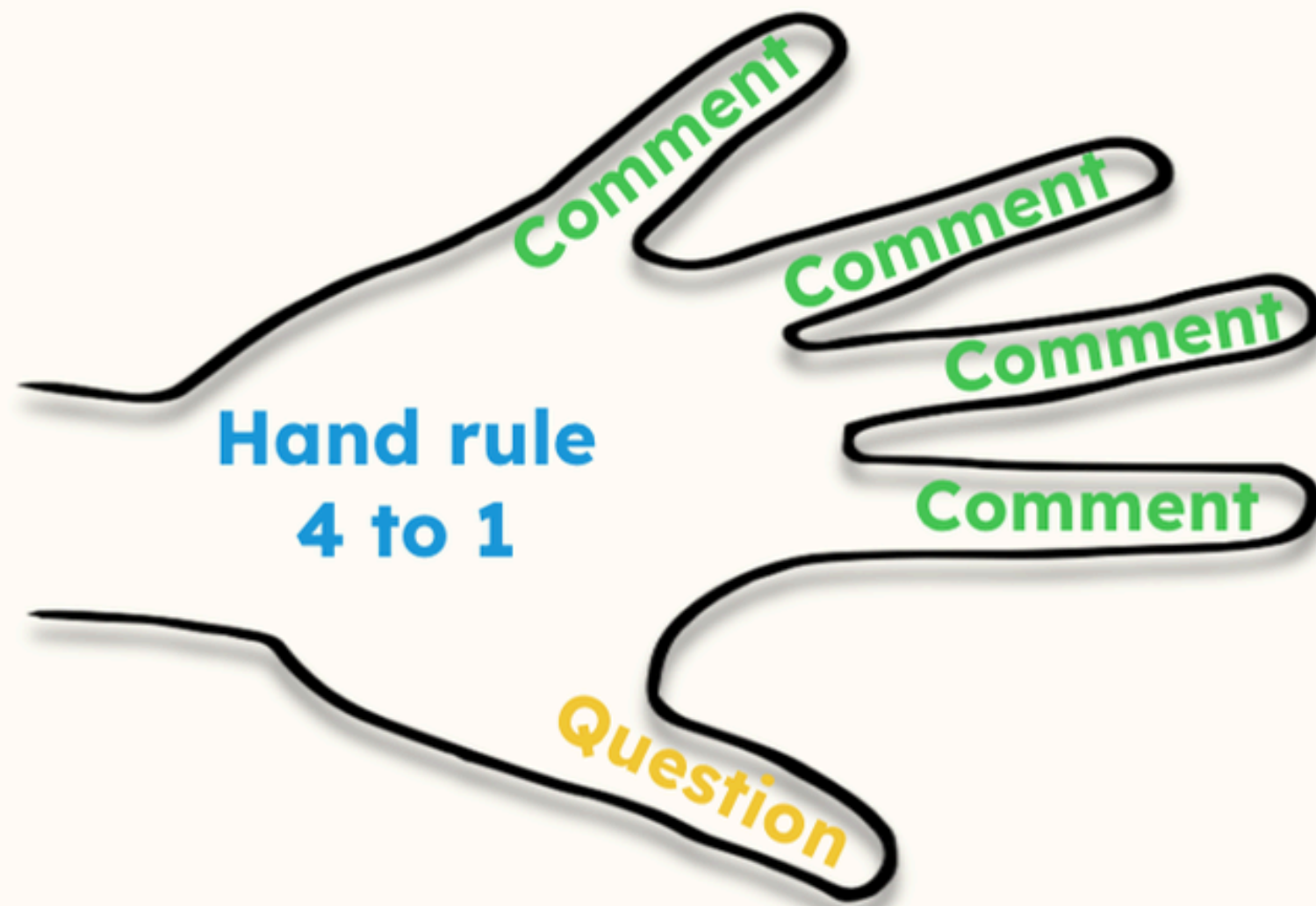
Implications: why does your environment put emphasis on this?  
How are the adults interacting with children to expose this knowledge and check?







Make more comments to  
each question



Comment = note, restate, repeat, expand and reframe

slt for Kids  
Commenting



The hand rule

A good rule to follow is make 4 comments  
for every 1 question you ask



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# MATHS IN *Practice*

1

Numbers need to be real and meaningful to young children, so it's important to show them numbers in context.

2

Children need real-life maths experiences and the chance to repeat them often. This is how they remember them.

3

Use mathematical words to support children's mathematical thinking.

4

Observe what children are doing during play and make the links to numbers in context.

5

Having a good range of resources will encourage curiosity and creativity.





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# Depth of *Learning*



**01**

Can they explain their mathematical thinking?

**02**

Can they do it in different ways?/different resources?

**03**

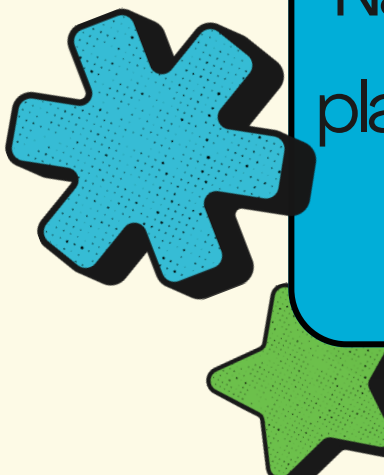
Can they make links between previous learning?



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V1

How do we currently  
check children are not  
stuck with 1:1 counting at  
the beginning?



Navigating automaticity in fact families within 10 and  
place value baselines.



# Y1: Part-Whole and Fluency within 10

- Numbers to 10: Subitise within 5 and master the composition of numbers up to 10, including the "5 and a bit" structure for numbers 6 to 9.
- Comparing & Ordering: Compare and order numbers within 10, connecting them to "1 more" and "1 less".
- Number Lines: Learn to use and identify the differences between number tracks and number lines.

- Odd & Even Structures: Explore the composition of 7 and 9, and understand how odd and even numbers are structured and change by 2.
- Language: Use part-part-whole language (without symbols) to explore combining and separating numbers.
- Number Stories: Use "first, then, now" story structures to understand adding to and taking away from a group

- Numbers 11 to 20: Explore the composition of numbers 11 to 19 as "10 and a bit" and compare numbers within 20.
- Linear Number System: Place numbers up to 20 on a number line and identify key midpoints like 5, 10, and 15.
- Equations & Fact Retrieval: Connect formal addition and subtraction equations to number stories and practice quick fact retrieval.

Use this to create three common themes of priority foundational knowledge?

Why did you choose these?

## REMAT

### Partner Activity:

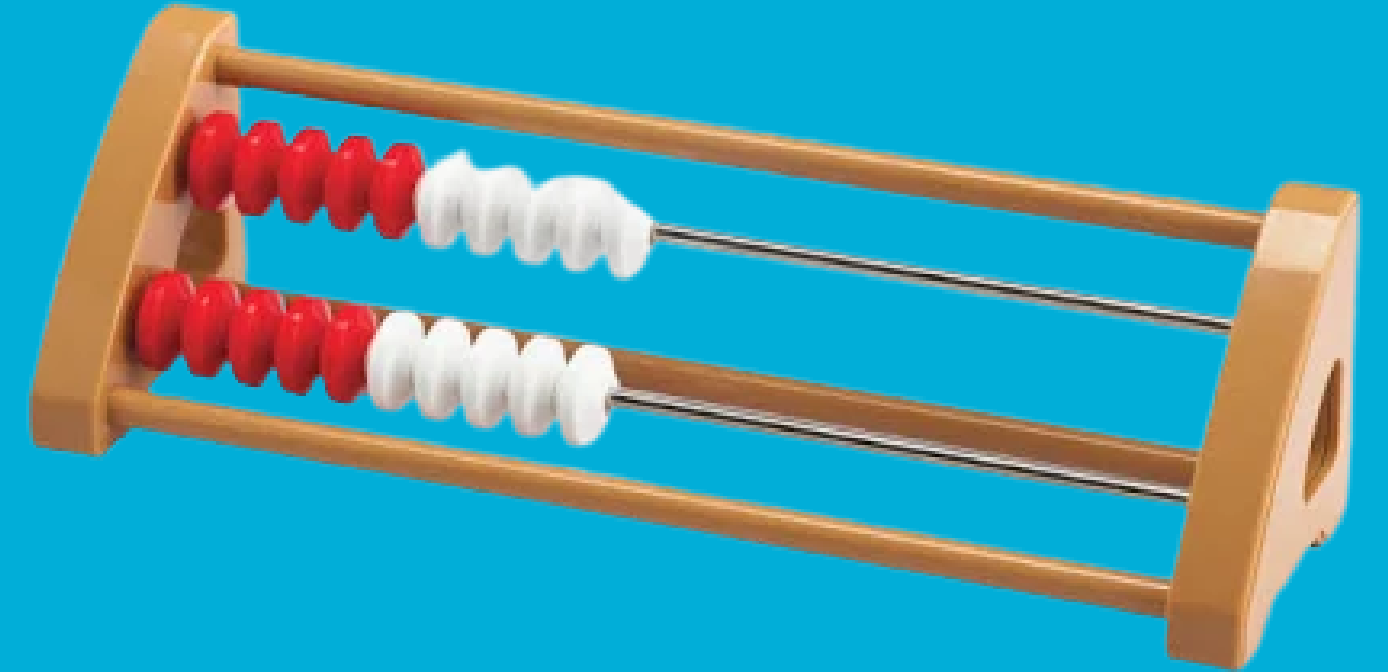
Setup: Grab one Rekenrek per pair. Partner A starts as the teacher;  
Partner B starts as the pupil.

Step 1 (Flash): Partner A secretly sets up 8 beads (5 red, 3 white), flashes it  
to Partner B for two seconds, and covers it.

Partner B must explain how they saw without counting.

Step 2 (Shift): Partner A reveals the 8 beads. Partner B must slide the  
beads in a single motion to show "two less". What number now? How did you  
know?

Step 3: Partner B clears the board and builds a "10 and a bit" number (e.g.,  
14). Partner A must tell a "First, Then, Now" story for that number.



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# Variation Oracy



Present the same number using multiple representations: tens frames, Rekenrek, number lines, and part-whole models. Pupils see that  $7 = 5+2 = 4+3 = 6+1$ , deepening structural understanding rather than rote recall.

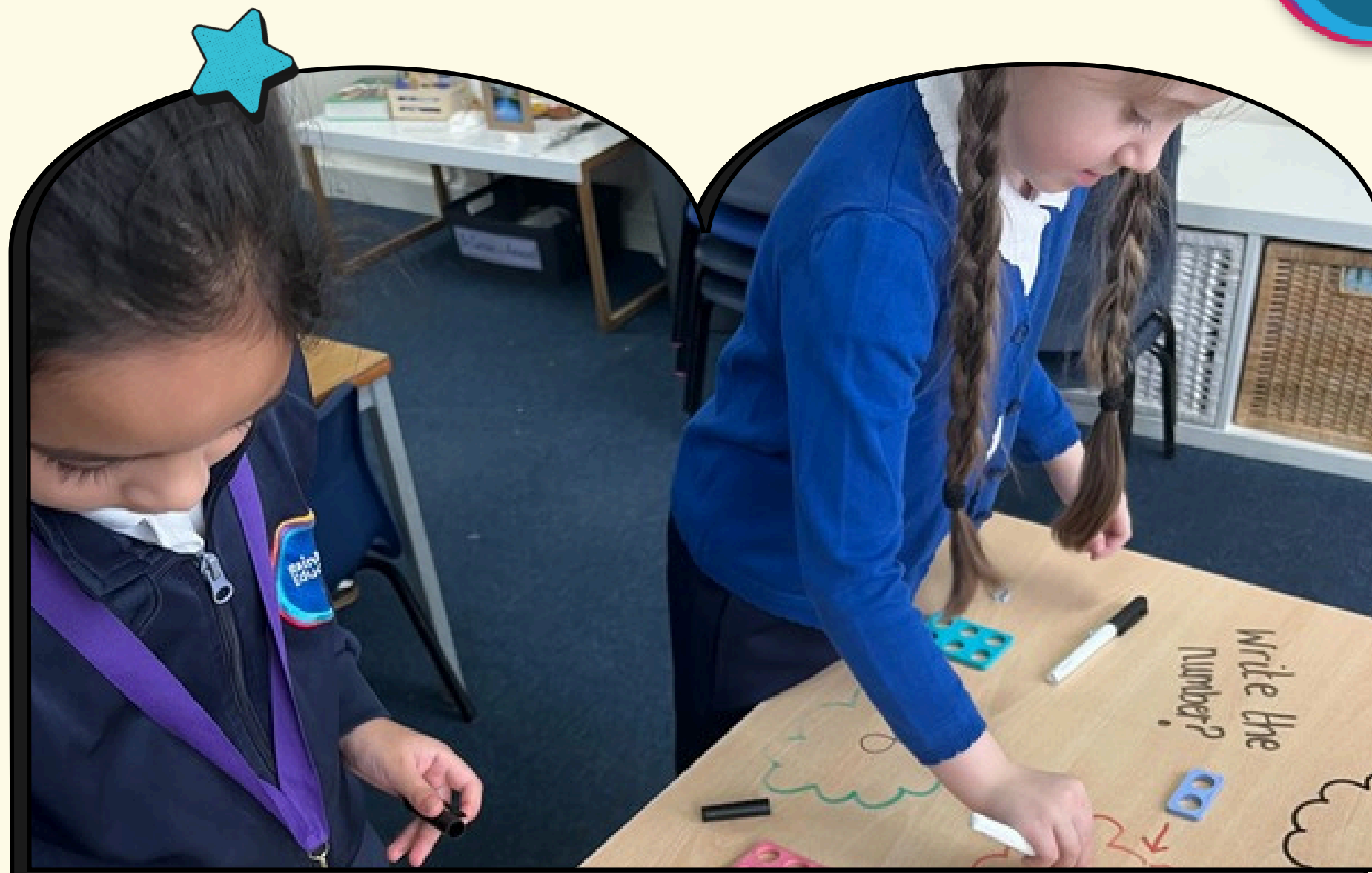
Build reasoning chains through structured sequences: vary one element at a time (e.g.,  $4+3$ ,  $5+3$ ,  $6+3$ ). Pupils articulate patterns using stem sentences: "I know \_\_\_\_ because \_\_\_\_," developing oracy alongside fluency.

**School Implications:** Audit classroom resources — are tens frames, Rekenreks and number lines visible and in use daily? Integrate White Rose 1-Minute Maths app for targeted fluency practice. Ensure all staff model rich mathematical talk and expect pupils to explain their reasoning in full sentences.



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Y2



Two-digit place value and bridging

10

## **Bridging:**

Fluent bridging is essential:  $8 + 6 = 8 + 2 + 4 = 14$ . Pupils must decompose the second addend to make 10, then add the remainder.

Without this, children revert to inefficient counting strategies that create bottlenecks in later mathematics.

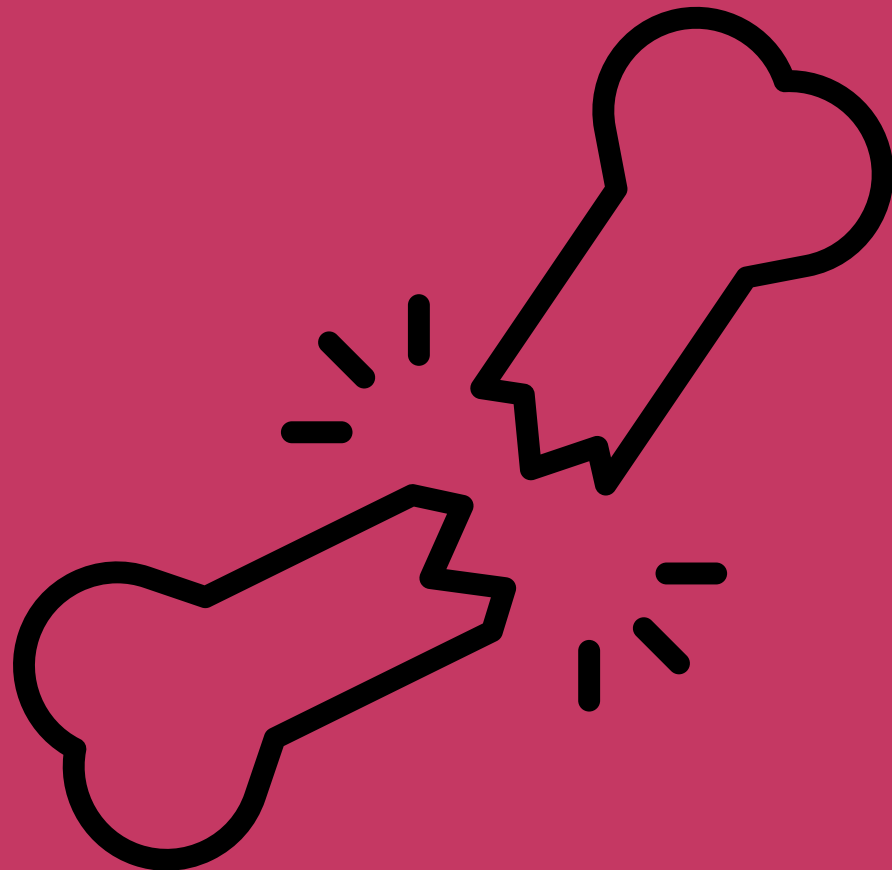
## **Place Value:**

Two-digit place value understanding underpins all Year 2 arithmetic.

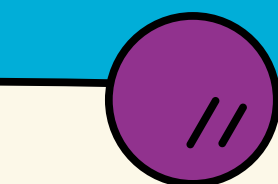
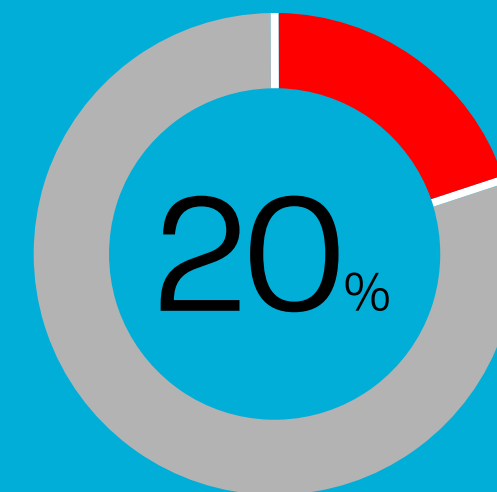
Pupils must grasp commutativity ( $3 + 9 = 9 + 3$ ) and inverse relationships ( $14 - 6 = 8$  because  $8 + 6 = 14$ ) to build flexible, connected number knowledge.

Without secure bridging and place value, pupils face critical fractures: inability to partition two-digit numbers, reliance on counting in ones, and failure to apply known facts — all of which compound into significant gaps by Key Stage 2 impacting on multiplicative reasoning:

MTC and fractional manipulation.

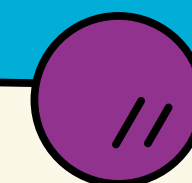


# Interventions - keep up



## Reactive:

Intervention after the lesson when gaps are already embedded. Pupils fall further behind before support is deployed. Staff address misconceptions retrospectively, increasing cognitive load and reducing confidence.//



## Proactive

Brief, daily small-group support linked directly to the upcoming main lesson content. Morning registration used for pre-teaching lowest-attaining pupils, building readiness before whole-class input.//



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# Rethinking Leadership

Sustainable change

**1:**  
**Concrete Resource Audit**  
Ensure 5-frames, 10-frames, and Rekenreks are visible, accessible, and in use in every EYFS and KS1 classroom.  
How are we assessing what children know?  
How will we use this intelligence?  
How does our curriculum prioritise this?

**2:**  
**Protect Daily Fluency Slots**  
Ring-fence 10–15 minute daily fluency sessions across Year 1 and Year 2. Non-negotiable time for number fact practice. Assessment: screening tools to check and re-group.

**3:**  
**Realign Intervention Timetables**  
Shift to proactive pre-teaching for lowest-attaining pupils. Deploy skilled staff at the right time, linked to the main lesson.

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Thankyou



FOR LISTENING!

REACH OUT FOR ANY QUESTIONS