NUMBER FACTS PARENT/CARER WORKSHOP 22.10.26

Developing confident, flexible and fluent mathematicians.
How school and home can work together to develop secure number facts.

AGENDA

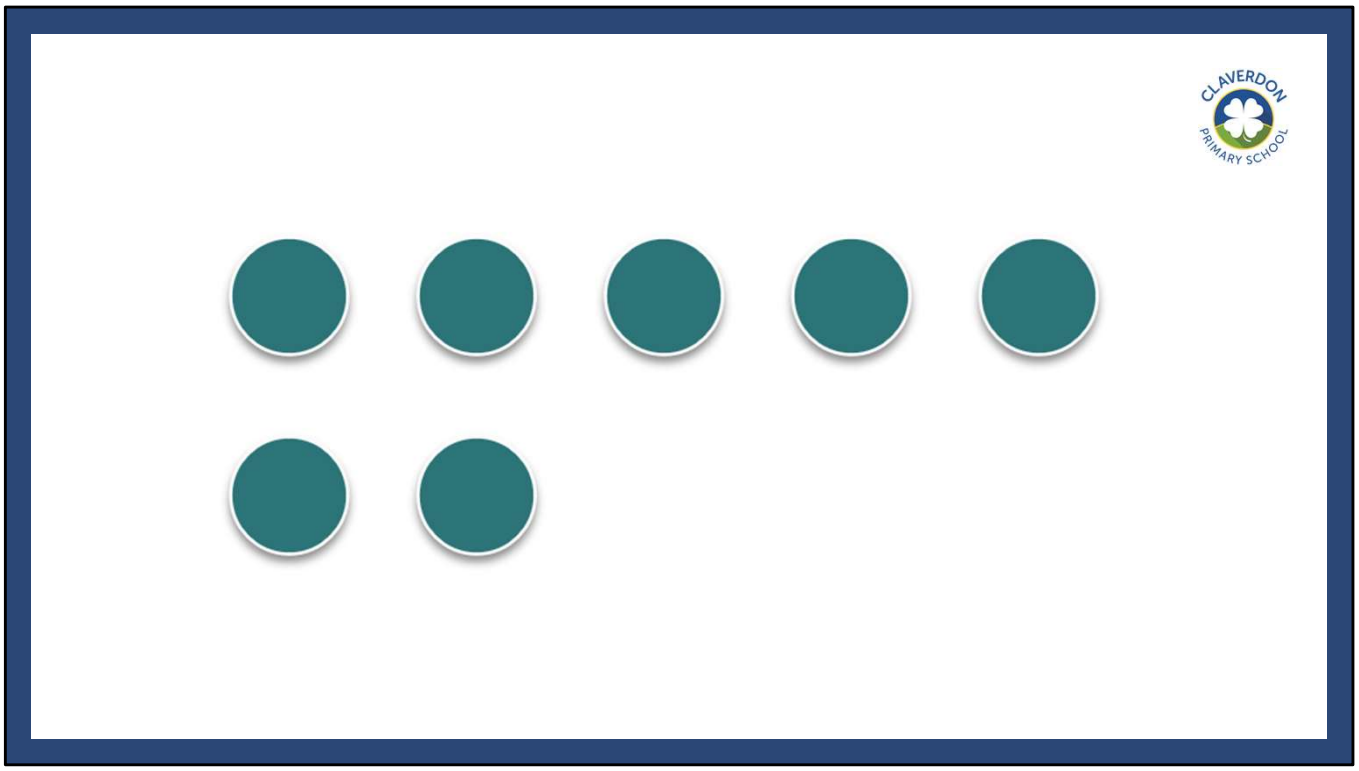
- What do we mean by fluency?
- Why does fluency matter?
- Early number sense
- How will we teach fluency at Claverdon?

Today, we're going to explain our new approach to teaching number fluency, why it's so important, and how you can support your child at home. Most importantly, we're going to give you the opportunity to experience some of the activities your children will be doing.

Where does fluency begin?

What do you see and
how do you see it?

Show the dots briefly, then hide them. Ask parents to discuss what they saw.
Some might see 3 + 3 + 2, others 5 + 3, and some might count each dot.
Explain that we want children to develop the ability to recognise quantities and see relationships between numbers, rather than relying on counting everything individually.
Introduce the term subitising simply as recognising a quantity without counting each item.



Use the magnetic counters to model this.
Move it to prove it.

Show the dots briefly, then hide them. Ask parents to discuss what they saw.
Some might see 4 + 3 = 7, others 5 + 2, and some might count each dot.
Explain that we want children to develop the ability to recognise quantities and see relationships between numbers, rather than relying on counting everything individually.
Introduce the term subitising simply as recognising a quantity without counting each item.
The word **subito** means "immediately," "at once," "right away," or "suddenly". It comes from the Italian language.

Why does fluency matter?

8 + 7 vs 10 + 5

Which feels easier — and why?

When children know key number facts securely, they have more thinking space for solving problems and learning new mathematics.

Fluency helps make harder mathematics feel easier.

Ask why 10 + 5 feels easier.
Explain that when children have to work out every basic calculation from scratch, it takes up thinking space.
But when facts become secure, they can focus on the more challenging mathematics.
Demonstrate how 8 + 7 can become 8 + 2 + 5.
Key message: Fluency isn't simply about answering quickly. It's about knowing facts securely and using them efficiently.

What do we mean by 'fluency'?

Know it

Recall key facts without having to count.

Connect it

Recognise relationships between numbers.

Use it

Apply known facts to work out something new.

Fluency in maths is often misunderstood as simply recalling facts quickly, but it encompasses much more.

Use the example:
"I know 5 + 5 = 10, so I know 5 + 6 = 11."
Explain that a child who uses this relationship is demonstrating important mathematical thinking, even if they haven't yet memorised 5 + 6.
Over time, with practice, we want the fact itself to become automatic too.

What do we mean by 'fluency'?

Know it

5 + 5 = 10

I can recall this fact without counting.

Connect it

5 + 6 = 11

I know 5 + 5 = 10, so 5 + 6 is one more.

Use it

There are 50 children on one coach and 50 on another. How many children are there altogether?

Fluency in maths is often misunderstood as simply recalling facts quickly, but it encompasses much more.

You could also develop the Connect It stage further by showing that knowing 5 + 5 = 10 helps children recognise:
50 + 50 = 100

10 − 5 = 5 (inverse relationship)
4 + 5 = 9 (one less)
6 + 6 = 12 (double one more)

How are we teaching fluency at Claverdon?

Number Sense Maths

A systematic, carefully sequenced approach to learning number facts.

Number Facts Progression

This year, Years 1–3 will revisit the earlier stages of the programme to secure foundational number skills, strengthen connections and address any gaps before progressing to more complex learning.

Stage	Year	Focus of stage
Stage 1 Visual Number Foundations	Year 1	• Building a deep and visual understanding of numbers 1-10 • Subitising quantities 1 – 5, and subitising structured arrangements for quantities 6-10 • Recognising quantities 1-10 twos-wise and fives-wise on tens frames
		Assessment check point
Stage 2 Make and Break Numbers to 10		• Exploring the different ways that every number to 10 can be broken into parts and put back together • Starting to remember some facts • Introducing addition and subtraction equations
Stage 3 Facts and Strategies within 10		• Learning calculation strategies for adding and subtracting within 10 • Learning to use what you know to work out what you don't yet know • Achieving fluency in addition and subtraction facts within 10
		Assessment check point
Stage 4 Ten and A Bit		• Building a deep and visual understanding of the numbers and quantities 11 to 20 • Understanding the concept of place value • Learning the Ten and a Bit calculation strategy
		Assessment check point
Stage 5 Facts and Strategies across 10	Year 2	• Learning the remaining calculation strategies • Practicing strategy selection to promote efficient and flexible thinking • Achieving fluency in addition and subtraction facts across 10
		Assessment check point
Stage 6 Extending Facts and Strategies		• Learning to extend and apply key facts and strategies to addition and subtraction calculations involving 2-digit numbers
		Assessment check point
Consolidation	Year 3 Autumn Term	• Review and consolidation of Stage 5 and Stage 6 to secure fluency in facts across 10 and in 2-digit mental calculation

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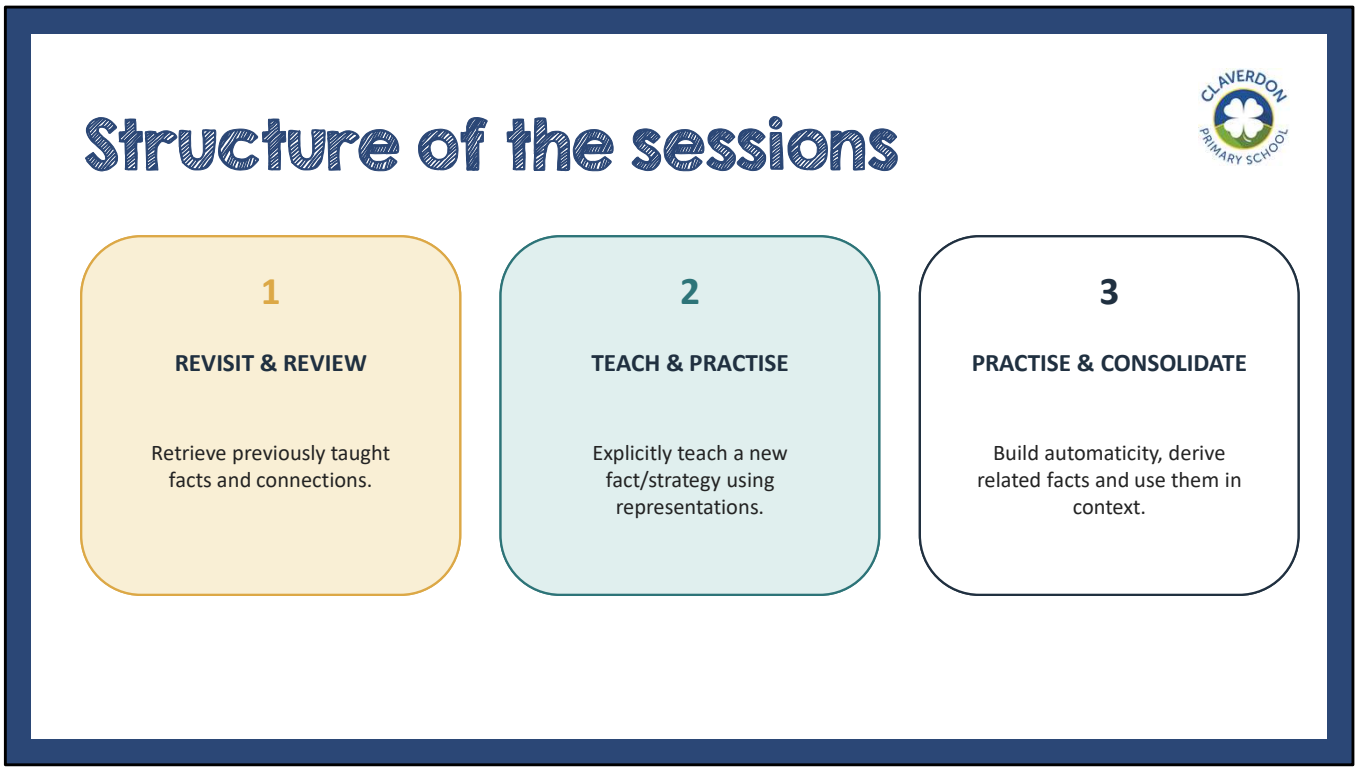
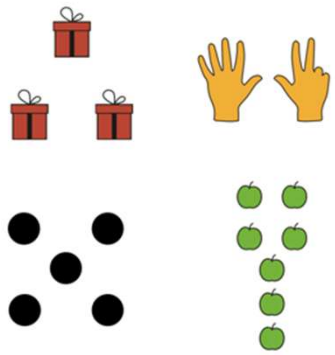
Give parents a copy of this.

This year, Years 1–3 will be working through the earlier stages of the programme to ensure that all children have secure foundations in number. As this is a new approach for our school, children will revisit some learning they may already be familiar with. This will allow us to strengthen their understanding, develop connections between number facts and identify any gaps before progressing to more complex strategies.
In future years, children will follow the programme's intended progression from Year 1 onwards.

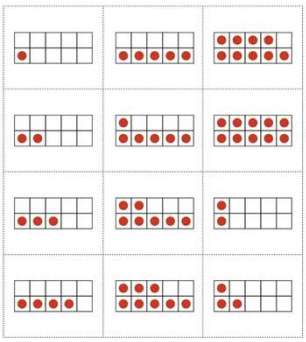


This is where I would use an image from your CPD showing the programme's stages.
Explain that children won't be given all their number bonds to learn at once.
Instead, the programme introduces carefully chosen facts and strategies, building on previous learning.
Make the link to phonics: we don't expect children to learn every letter-sound correspondence at once. We teach them systematically, give opportunities to practise, and revisit them regularly.

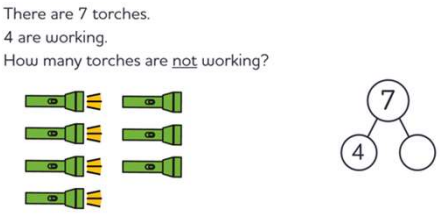
What does this look like in school?



Children build on what they have learnt in EYFS. Concept of subitising (knowing quantities without counting).



Children develop the ability to subitise sets of 1 - 10 items when presented on tens frames.



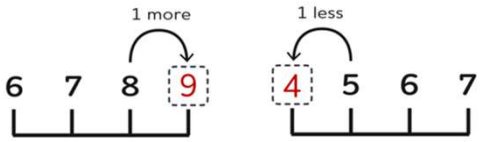
Children learn about making numbers 1-10 from two numbers (the basis of addition) and partitioning (the basis of subtraction).

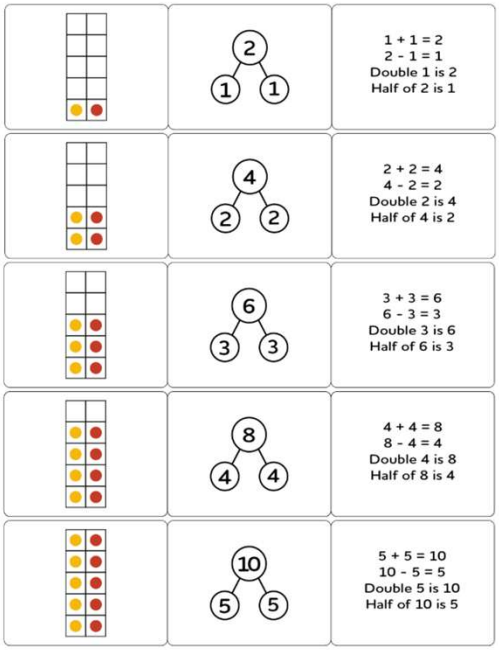
Because this is a new programme for our school, our older children haven't experienced this particular sequence of teaching. We're making sure there are no gaps in those foundations rather than assuming that everything is secure.

For some children, these early activities will be straightforward, and that's absolutely fine. We don't want to hold children back. We'll be looking at how confidently and flexibly they use their knowledge, not simply whether they can give the correct answer.

As we move through the programme, the learning will become increasingly challenging, but those early connections will continue to underpin everything that follows.

Daily fluency sessions

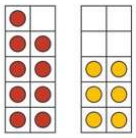




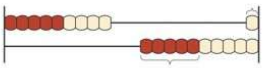
Doubles and halves (and near doubles)

Number	Tens Frame	Place Value Table	Part Part Whole	Related Equation
11 Eleven		Tens: 1, Ones: 1	11 → 10, 1	10 + 1 = 11 1 + 10 = 11 11 - 10 = 1 11 - 1 = 10
12 Twelve		Tens: 1, Ones: 2	12 → 10, 2	10 + 2 = 12 2 + 10 = 12 12 - 10 = 2 12 - 2 = 10
13 Thirteen		Tens: 1, Ones: 3	13 → 10, 3	10 + 3 = 13 3 + 10 = 13 13 - 10 = 3 13 - 3 = 10
14 Fourteen		Tens: 1, Ones: 4	14 → 10, 4	10 + 4 = 14 4 + 10 = 14 14 - 10 = 4 14 - 4 = 10
15 Fifteen		Tens: 1, Ones: 5	15 → 10, 5	10 + 5 = 15 5 + 10 = 15 15 - 10 = 5 15 - 5 = 10

10 and a bit structure

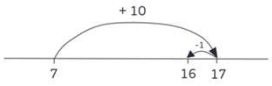


9 + 6 = 15



9 + 6 = 15

Make 10 and then…
(addition and subtraction)



7 + 9 = 7 + 10 -1
= 16

Adjusting

How does subitising support KS2 mathematics?

5 + 3 = 8

1. Mental addition and subtraction

Recognising 8 as 5 + 3 helps children see number relationships and develop strategies such as bridging through 10.

For example: 8 + 7 = 8 + 2 + 5 = 15.

8 × 6

5 × 6 + 3 × 6

2. Multiplication and division

Seeing a number as smaller parts supports partitioning and using known facts to derive new ones.

For example: 8 × 6 = (5 × 6) + (3 × 6) = 48.

0.8

0.5 + 0.3

3. Place value and decimals

The ability to recognise parts within a whole helps children understand how numbers can be partitioned at different scales.

For example: 0.8 = 0.5 + 0.3.

3/4

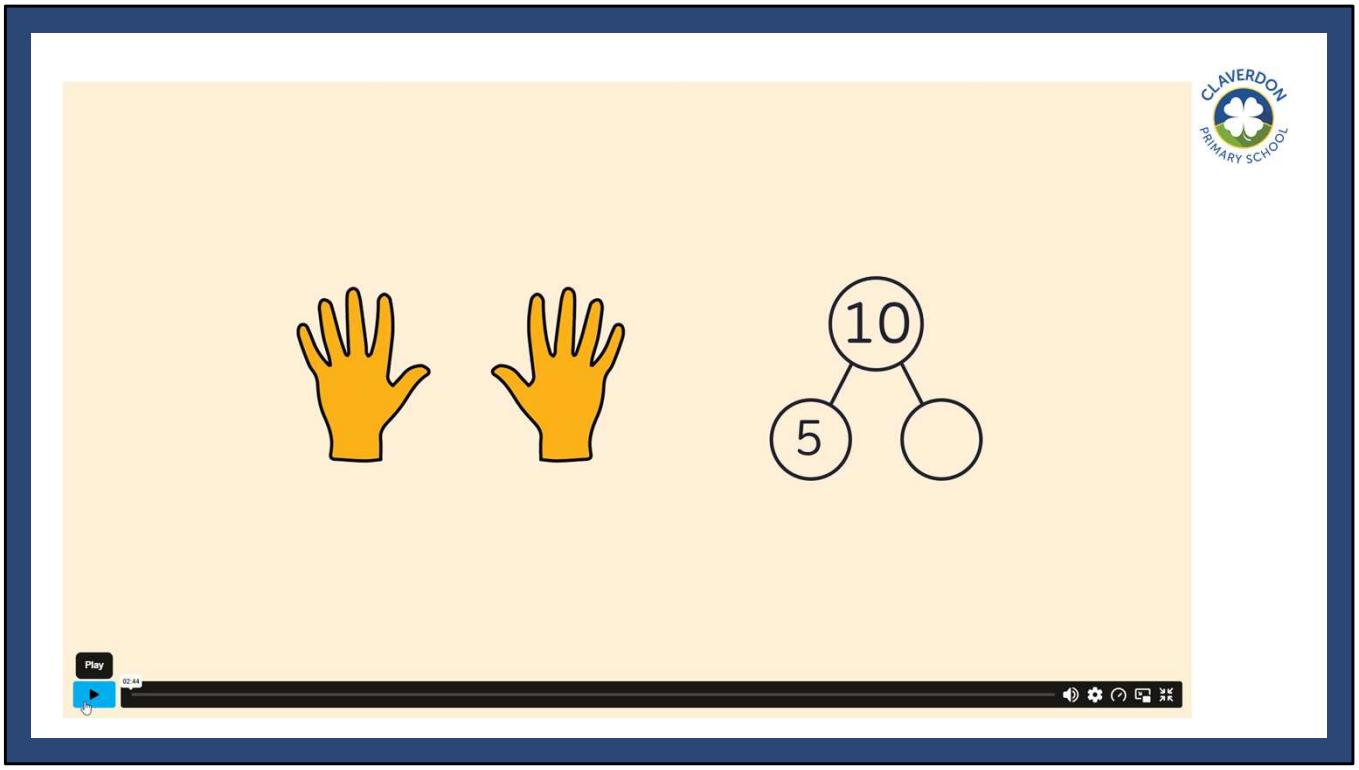
1/2 + 1/4

4. Fractions and proportional reasoning

Recognising how a whole can be composed of smaller parts provides a foundation for understanding fraction relationships.

For example: 3/4 = 1/2 + 1/4.

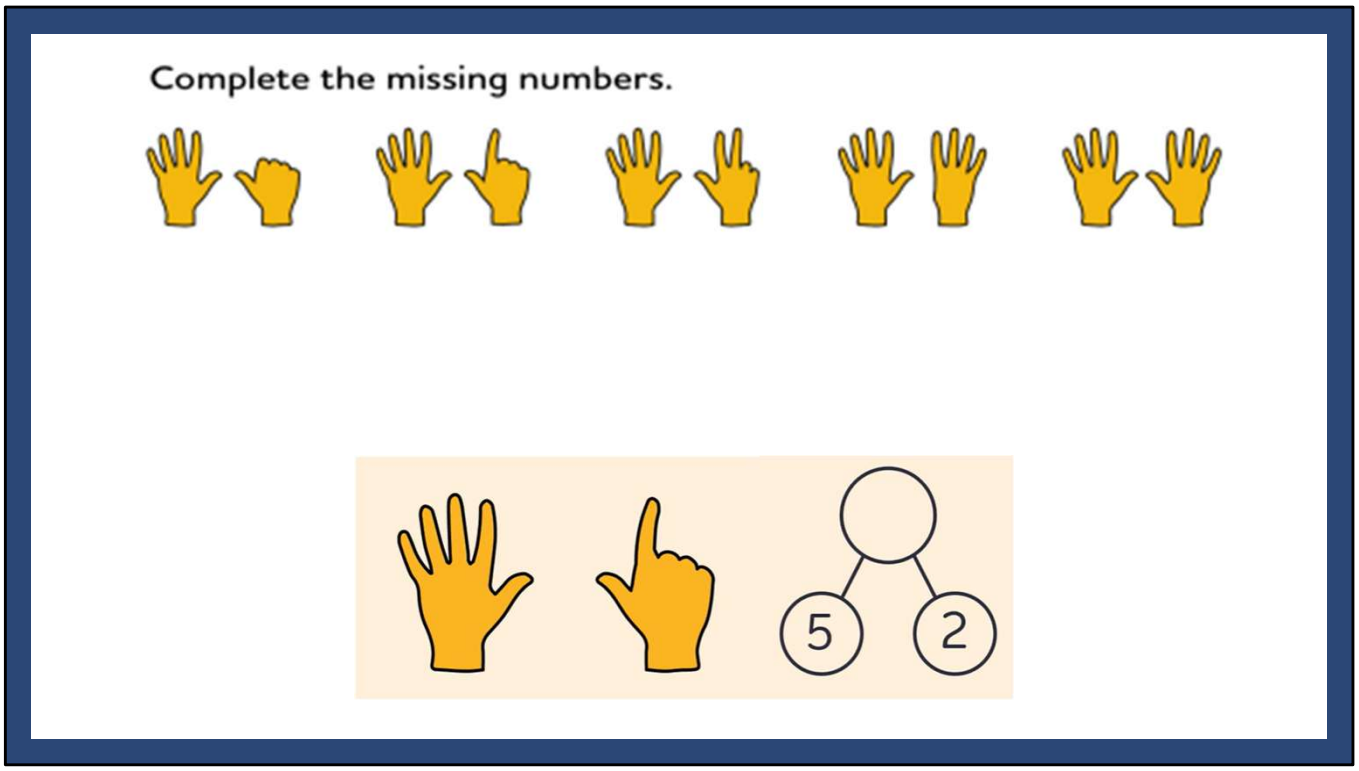
The important distinction is that **subitising itself doesn't teach multiplication, decimals or fractions**. Rather, the part–whole understanding and recognition of mathematical structure developed through subitising support these later concepts.



This is an example of one of the animations from the ‘five and a bit’ structure.

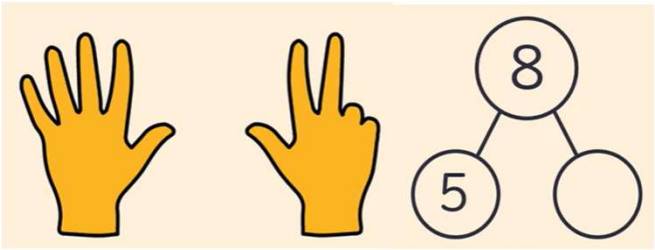
During the teaching, your child will be encouraged to:

- Look carefully at the images and develop a mental picture of the number.
- Recognise the structure of ‘five and a bit’ rather than counting each finger individually.
- Talk about what they notice, using mathematical language such as “Five is a part. Five is a part. The whole is ten.”
- Make connections between numbers, recognising that 6, 7, 8, 9 and 10 can all be made from five and some more.
- Use these relationships to help them recall and work out addition and subtraction facts.
- The aim is for children to move from counting to seeing and understanding how numbers fit together.



Model writing the numbers underneath the hands.

Complete the missing numbers.



Complete the missing numbers.

5 + 1 = 6

5 + 2 = 7

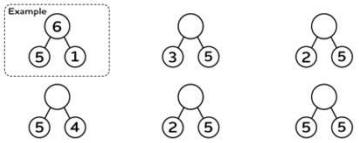
5 + 3 = 8

5 + 4 = 9

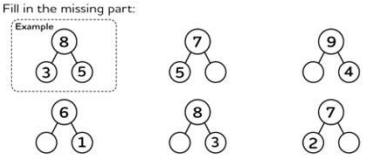
5 + 5 = 10

Complete the missing numbers.

Add the parts to make the whole:



Fill in the missing part:



Talking Tip

The focus here is using the "Five and A Bit" fact needed to complete the part part whole model. Initially, to complete the model your child must combine two parts (addition), later they must find the missing part (subtraction).

Encourage your child to visualise the fingers in their head (closing their eyes may help): "Think about 8 fingers. If I have 5 on one hand, how many do I need on the other hand to make 8? That's right I need 3. The missing part is 3." Your child can also use their fingers if they need to, or refer to the hands images at the top of the page.

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Stage 3: Five and A Bit: Exercise 4

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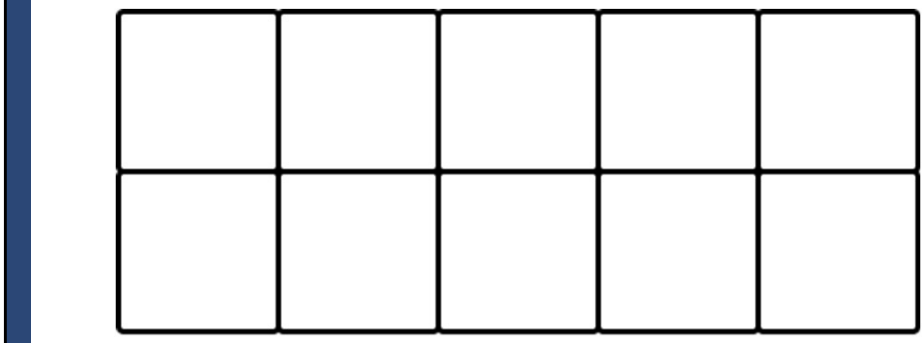
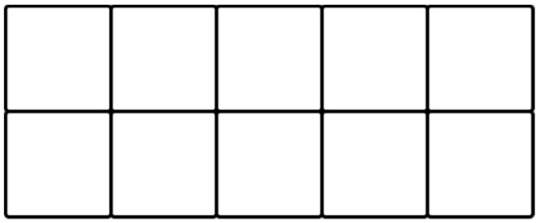
Over to you!



Resources per pair: 10 double-sided counters, ten frame and a mini-whiteboard.

Over to you!

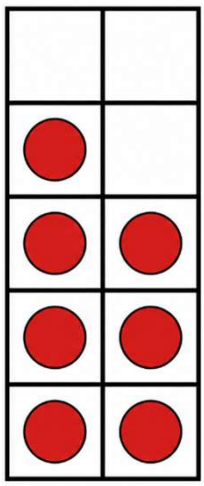


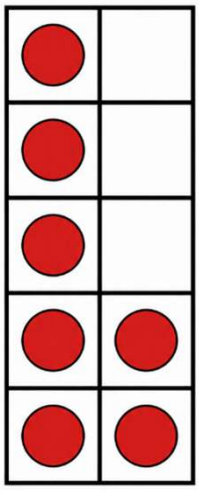
Using your counters, show me **seven** on your ten frame.

What do you notice about how the counters are arranged?

Resources per pair: 10 double-sided counters, ten frame and a mini-whiteboard.

Over to you!

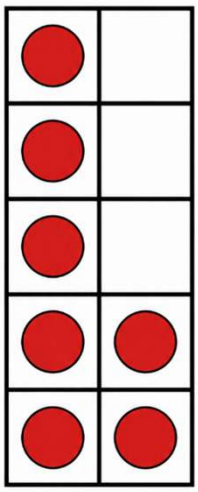




- How many pairs can you see?
- What would happen if we added one more?
- What would happen if we took one away?
- Can you tell me what two more would be without counting each counter?

Draw out: 7 is five and two. It is three less than ten.
We haven't changed the number at all. We've just changed how we're showing it. But look at the different relationships that have become visible.

Number facts



What number facts could we write to describe this?"

Keep the fives-wise ten frame with seven counters.
"We can see seven counters and three empty spaces. What number facts could we write to describe this?"
Give parents a minute to write as many related facts as they can on their whiteboards.

7 + 3 = 10
3 + 7 = 10 (and commutativity – swapping around the numbers NB this works for addition not subtraction)
10 – 7 = 3
10 – 3 = 7

Explicitly draw attention to this **7 = 10 – 3** (if parents have not written this down).
It demonstrates why simply knowing number bonds to ten isn't enough. Children need to understand the part–whole relationship and recognise that it can be expressed in different ways.
"We're often very comfortable asking children what seven plus three equals. But what about writing seven equals ten subtract three?“

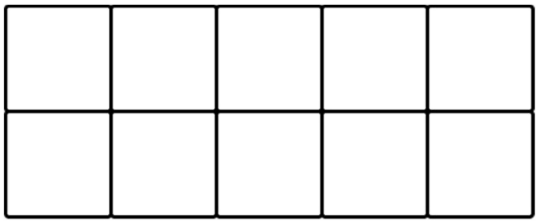
Also going deeper and understanding what the equals means?
10 – 3 = 3 + 4

How many ways could they find to complete this…?
10 - ___ = ___ + 4

Ask:
"Can you see this relationship in the ten frame?"
"What does the equals sign mean here?"
"Is seven still equal to ten subtract three, even though we've written the answer first?"
Draw out: The equals sign means is equal to, not the answer comes next. The expressions on either side have the same value.

This might seem like a very simple activity, but these are the foundations of much more complex mathematics. Even in Year 6, we sometimes see children who can recall number facts but struggle to recognise those same relationships when they're presented differently. That's why it's so important that we explicitly teach children to see and understand these connections from the beginning, rather than assuming they'll make them independently.
Difference between knowing a fact and understanding it flexibly.

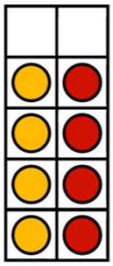
Over to you!



Use your counters to make **two equal groups of four.**

Resources per pair: 10 double-sided counters, ten frame and a mini-whiteboard.

Over to you!



Double 4 is 8

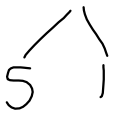
"Here are two groups of four. What do we know?"
Then:
"Without starting again, how could we use double four to work out four plus three?"
Ask parents to remove one counter.
Draw out: If 4 + 4 = 8, then 4 + 3 = 7 because one group is one less.
You could then ask:
"If we know double five is ten, what would five plus six be?"
This shows how children use a known fact to derive a related fact.

Which strategy would you choose?

7 + 1

7 + 3

6 + 5



We've explored several different ways of thinking about numbers. Now I'd like you to consider these calculations.
Allow parents to discuss.
Draw out:
7 + 1: one more
7 + 3: number bond to ten
6 + 5: double five and one more, or five and a bit
Explain that fluency involves being able to select and use an efficient strategy, not just getting the correct answer.

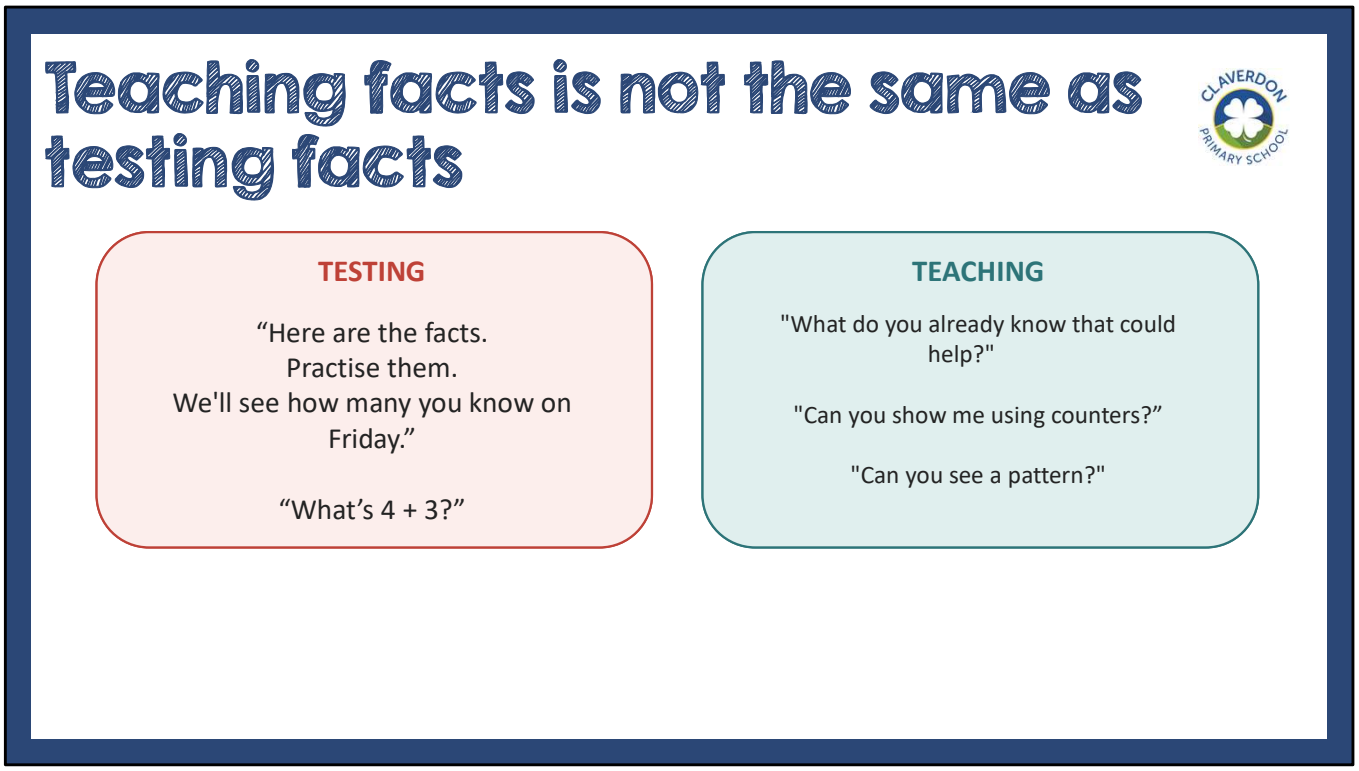
Which strategy would you choose?

7 + 1 **7 + 3** **6 + 5**

- One more / one less
- Two more / two less
- Five and a bit
- Number bonds to 10
- Doubles / near doubles

The calculations we've explored today are simple, but the thinking behind them is incredibly important. We've looked at odd and even numbers, one more and one less, part–whole relationships, number bonds, doubles and near doubles.
These are not isolated facts. They are all connected, and children need to recognise those connections so that they can use what they know to work out what they don't know.
That's why the programme is carefully sequenced. We don't introduce all the facts and strategies at once. We build children's understanding systematically, revisiting and strengthening their knowledge as they progress.

One thing to note: this is a demonstration of **several strategies**, not a typical single Number Sense lesson. In school, these strategies are introduced separately and systematically, with time for children to practise and consolidate each one.
Children are not expected to learn all the facts at once!



Explain that testing can tell us what a child knows, but it doesn't necessarily help them learn something they don't yet know.
Parents don't need to become teachers. Their role is to encourage children to think, explain and practise what has already been introduced in school.

New approach to fluency home learning

From simply rehearsing facts to learning, connecting and practising them.

Learn it first: Children are explicitly taught new facts and strategies in school.
Practise together: Games and activities at home help children understand, remember and connect these facts.

Build automatic recall: Short, regular practice helps facts become secure.

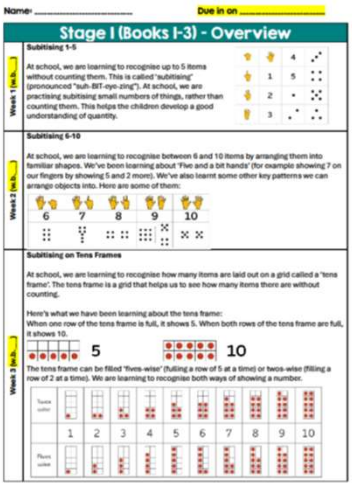
Aim for 3 fluency home learning sessions per week.

We will still set **Mathletics** home learning – this will consolidate what has been taught in the main maths lessons.

We're changing our approach to maths fluency home learning because we want children to have more opportunities to practise the facts they're learning in school in enjoyable, manageable ways.
Children will have a menu of games and activities that can be played repeatedly.
We're asking families to aim for three short practices each week.

Until now, much of our times table home learning has been through Times Tables Rock Stars. This is a really useful tool, particularly for practising facts that children already know and developing the speed and accuracy of their recall.
However, if a child doesn't yet know a multiplication fact, repeatedly being asked to answer it isn't necessarily going to help them learn it.
That's where our new approach comes in.
In school, we're explicitly teaching multiplication facts in a carefully planned sequence.
At home, we'd like children to have opportunities to practise and consolidate those facts through games and activities, with your support.
Times Tables Rock Stars will still be available as one of the choices on the home learning menu, but we want to broaden the opportunities children have to learn, talk about and make connections between facts.
The aim is for children to understand the facts, remember them and eventually recall them automatically.

Home learning fluency menu



Name: _____ Due in on _____

Stage 1 (Books 1-3) - Overview

Week 1 (w.b. ...)

Subitising 1-5

At school, we are learning to recognise up to 5 items without counting them. This is called 'subitising' (pronounced "suh-BIT-eye-zing"). At school, we are practising subitising small numbers of things, rather than counting them. This helps the children develop a good understanding of quantity.

Week 2 (w.b. ...)

Subitising 6-10

At school, we are learning to recognise between 6 and 10 items by arranging them into familiar shapes. We've been learning about 'Five and a bit hands' (for example showing 7 on our fingers by showing 5 and 2 more). We've also learnt some other key patterns we can arrange objects into. Here are some of them:

6 7 8 9 10

Week 3 (w.b. ...)

Subitising on Tens Frames

At school, we are learning to recognise how many items are laid out on a grid called a 'tens frame'. The tens frame is a grid that helps us to see how many items there are without counting.

Here's what we have been learning about the tens frame:
When one row of the tens frame is full, it shows 5. When both rows of the tens frame are full, it shows 10.

5 10

The tens frame can be filled 'fives-wise' (filling a row of 5 at a time) or twos-wise (filling a row of 2 at a time). We are learning to recognise both ways of showing a number.

1 2 3 4 5 6 7 8 9 10

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Home learning

How can you help at home?

- Little and often
- Aim for three short practices each week
- Repeat and revisit familiar games help children become more confident and secure
- Talk about the maths
- Encourage children to explain what they know and how facts connect
- Keep it positive
- Celebrate progress and make practice enjoyable

Show the actual home learning menu and explain how it is organised around the facts and strategies children are learning.
Emphasise that families do not need to complete every activity or find a new game every time.
Repeating an activity is valuable because children become more confident and increasingly able to recognise patterns and facts automatically.
Explain the Google Classroom task and home learning recording arrangements.

Play together. Talk together. Make connections.

Strong number foundations support confident mathematicians.
Thank you for supporting your child's mathematical learning.

THANK YOU