Maths in Year 2

March 2026

Mrs Dodd
Maths Lead

Mrs Gee

Mrs Thomas

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2GT TA

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Aims:

- Gain an understanding of the fundamentals in Year 2 and their importance.
- Understand how we teach using the C.P.A approach.
- Complete activities alongside the children to see first hand how we approach making connections and problem solving.
- Recognise websites that can support at home and complete the afternoon with a quiz.

Maths at Leasowes

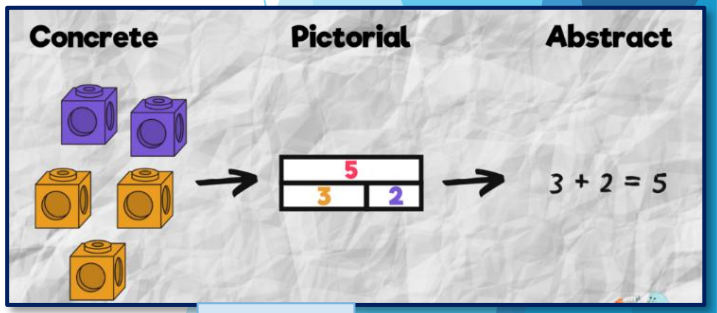
'The Golden Thread'
NUMBER

Our Culture and Ethos of Maths

Understanding of ***number*** *is a* ***fundamental life skill****. The culture and ethos at Leasowes is about* ***breaking the perception*** *of* ***'I can't do maths',*** ***converting reluctant mathematicians*** *into* ***resilient*** *and* ***confident*** *learners. We incorporate sustained levels of challenge through varied and high-quality activities with a focus on* ***fluency****,* ***reasoning*** *and* ***problem solving*** *to meet the goal of* ***'True Fluency'.*** *We* ***instil courage*** *and an acceptance that challenge is often a necessary step in learning.'*

Maths Policy

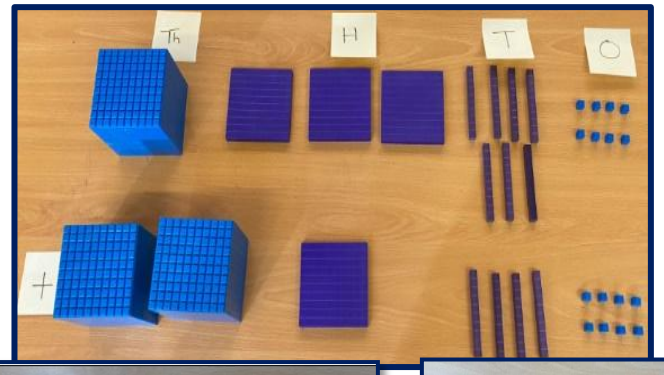
'We understand, that the children who thrive in maths, flourish because they are able to ***see the pattern and interconnections within the given concept****. The* ***CPA*** *approach gives all children the opportunity to do this, ensuring that our teaching of* ***Maths is equitable****. We use effective resources and scaffolding; creating many concrete and pictorial opportunities before introducing the abstract. This enables the children to* ***build a clearer understanding****,* ***connecting their knowledge and skills*** *and therefore visualising the problem at hand when working in the abstract form.'*



C.P.A

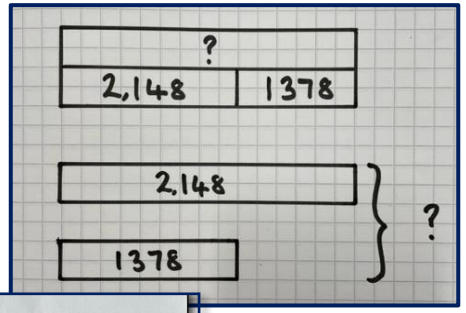
C

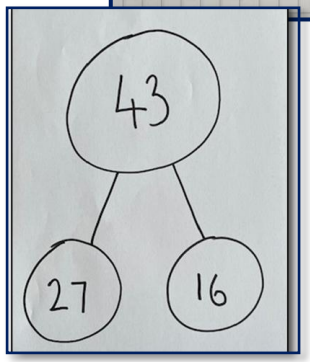
Concrete

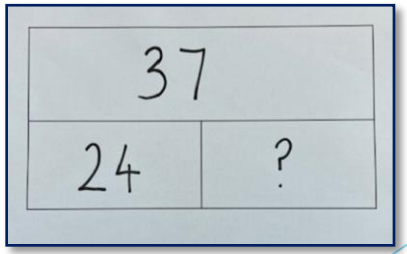


P

Pictorial







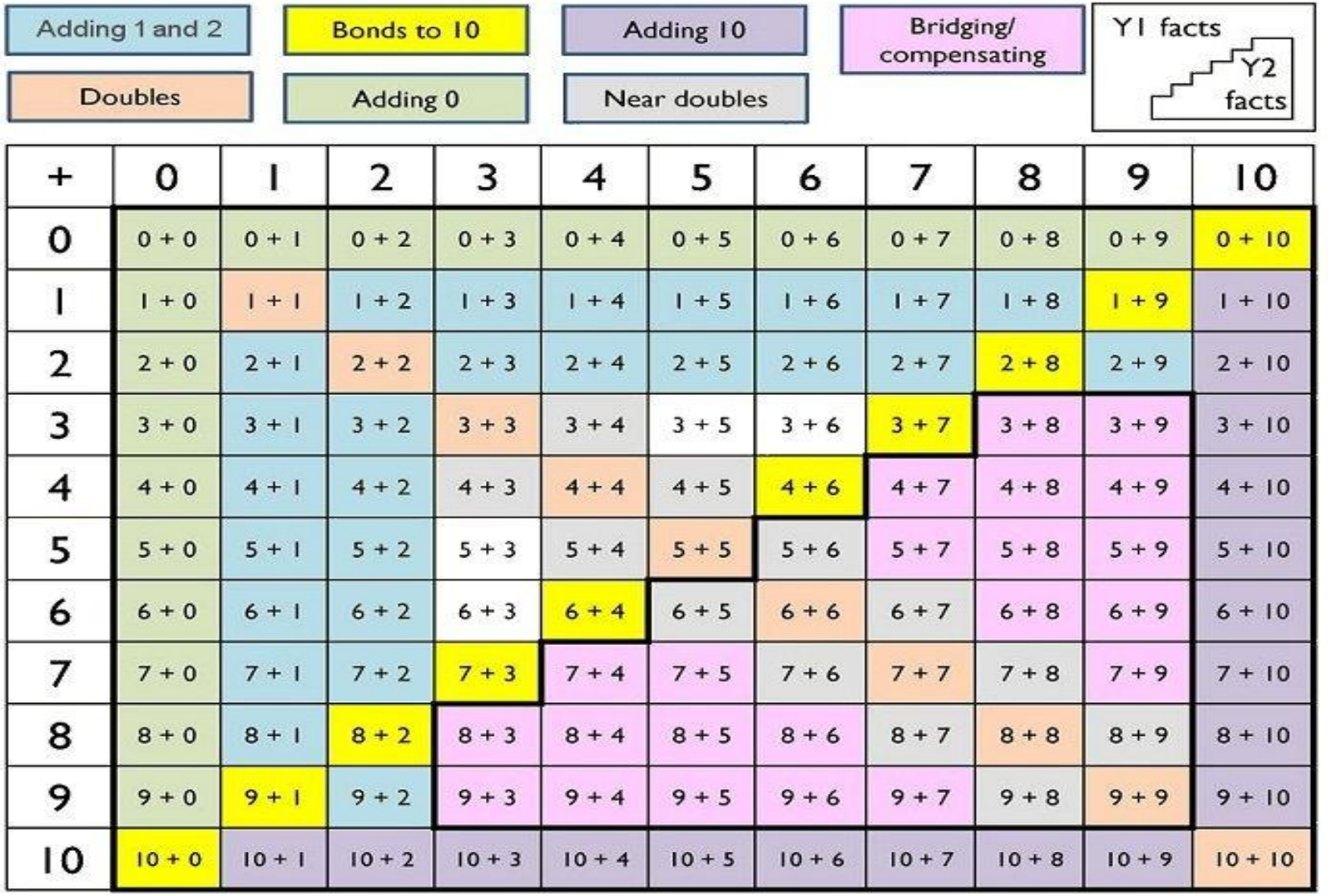
A

Abstract

	1	3	7	8
+	2	1	4	8
	3	5	2	6
	1	1		

*If **15** pears were shared equally between **3** children, how many would they each get?*

Year 2 Fundamentals Addition Example



+	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

Year 2 Fundamentals

Number and Place Value

- Read, write, partition and count numbers up to 100

Addition and Subtraction

- Use counting to add, including crossing through tens
- Use efficient strategies to add and subtract: 2-digit and 1-digit, 2-digit and a ten, 2-digit and a 2-digit

Multiplication

- Have a clear understanding of how multiplication works, including that when multiplying by ten, the number is ten times bigger, and the relationship between addition and multiplication (eg. 3 x 3 = 3 + 3 + 3)
- Know 2x, 5x, 10x, 3x tables

Fractions (division)

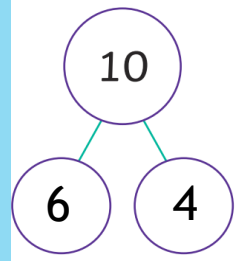
- Know how to find a half, a quarter, two quarters, three quarters and a third

Year 2 Fundamentals – Make Connections

50 + 60 = 110

40 + 70 = 110

6 + 4 = 10



5 + 6 = 11

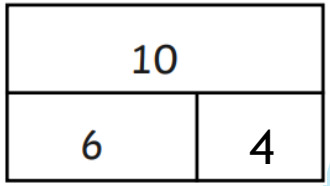
4 + 7 = 11

10 = 4 + 6

4 + 6 = 10

10 = 6 + 4

40 + 60 = 100



60 + 40 = 100

10 - 4 = 6

10 - 6 = 4

4 + 16 = 20

100 – 60 = 40

16 + 4 = 20

100 – 40 = 60

Inverse + / -

Year 2 Fundamentals – Make Connections

Half 6 = 3

Double 3 = 6

3 x 2 = 6

2 + 2 + 2 = 6

3 + 3 = 6

6 = 3 x 2

6	
3	3

2 x 3 = 6

6 = 2 x 3

20 x 3 = 60

. . .

. . .

6 ÷ 2 = 3

30 x 2 = 60

Inverse + / -

6 ÷ 3 = 2

60 ÷ 30 = 2

60 ÷ 20 = 3

6		
2	2	2

Year 2 Fundamentals – Make Connections

Team Challenge!

Choose one of these number sentences and make as many connections as you can.

4 x 3 = 12

Inverse x / ÷

2 + 8 = 10

Inverse + / -

Ready…Steady…5 minutes starts…NOW!

Year 2 Fundamentals – Make Connections

'...children who thrive in maths, flourish because they are able to ***see the pattern and interconnections within the given concept***.'

$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$

There is a difference between knowing what these fractions are and truly ***understanding*** *what they are and the concept of what each one means.*

Year 2 Fundamentals – Make Connections

'...children who thrive in maths, flourish because they are able to ***see the pattern and interconnections within the given concept***.'

$\frac{1}{2}$

Key Questions:

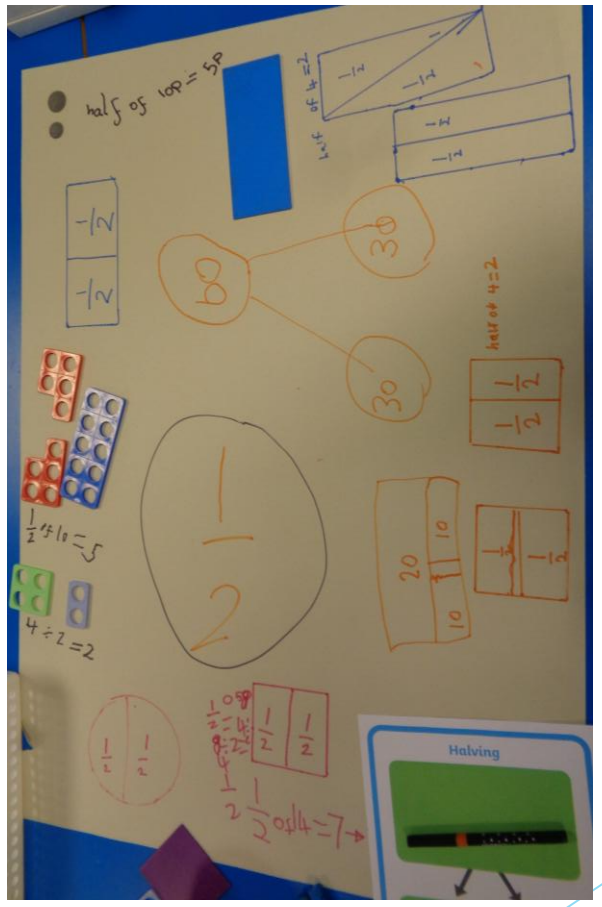
- Do they know this is sharing into 2 equal parts?
- Can they relate this to ÷ 2?
- Can they make links to the 2 times table?
- Can the use their knowledge of doubles to find halves of amounts?
- Can they show this using the C.P.A approach?
- Do they understand in in terms of objects, pictures, shapes and numbers?

Year 2 Fundamentals – Make Connections

'...children who thrive in maths, flourish because they are able to **see the pattern and interconnections within the given concept**.'

Resources:

- Shapes
- Counters
- Money
- Numicon
- Base 10 (diennes)
- Felt tips
- Fraction mats
- Bar model
- Part-whole model
- Numbers



Get ready for...

Team Challenge Number 2!

Year 2 Fundamentals – Make Connections

'...children who thrive in maths, flourish because they are able to **see the pattern and interconnections within the given concept**.'

Resources:

- Shapes
- Counters
- Money
- Numicon
- Base 10 (diennes)
- Felt tips
- Fraction mats
- Bar model
- Part-whole model
- Numbers

$\frac{1}{2}$

$\frac{1}{4}$

$\frac{1}{3}$

1. Choose a fraction from the choices above.
2. Using the concrete resources, pictorial representations and abstract number sentences, show what you know about that fraction and what it means.

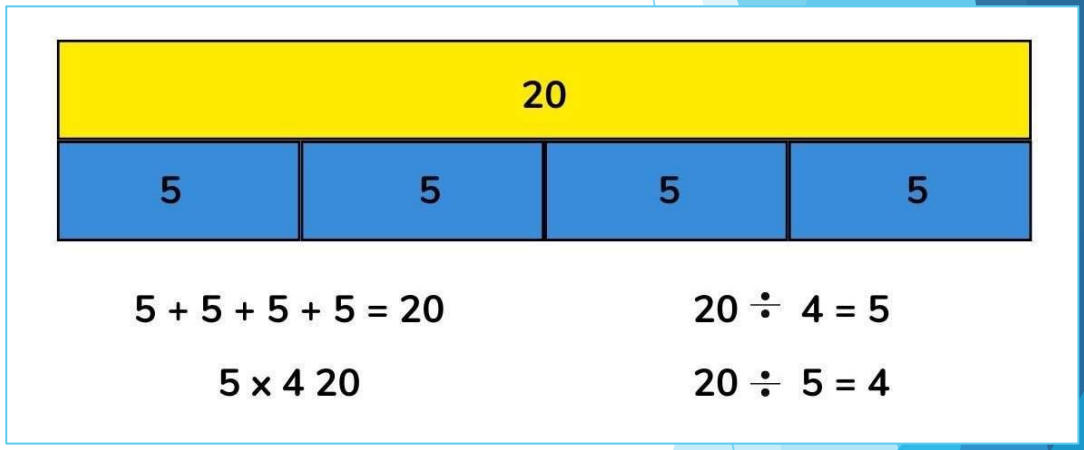
Ready...Steady...10 minutes starts...NOW!

The Importance of Times Tables!

One of the Year 2 fundamentals is for children to know the:
2x, 5x, 10x and 3x tables.

The need to:

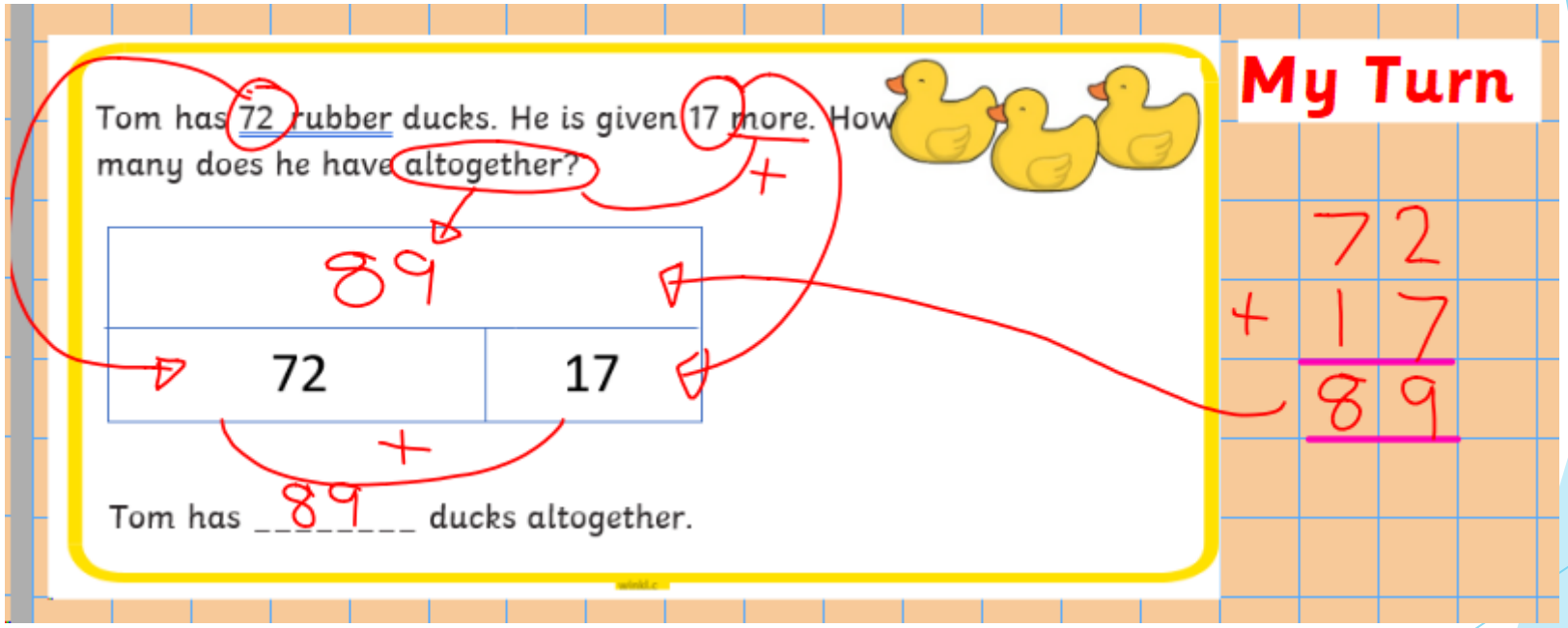
- Have quick recall of these times tables out of order.
- Understand the corresponding division facts.
- Make connections between multiplication and repeated addition.
- Make connections between 2x and double as well as ÷2 and half.



By the end of Year 4 all children complete the Multiplication Check and need to know all of the times tables to 12 x

A New Way to Problem Solve!

The culture and ethos at Leasowes is about breaking the perception of 'I can't do maths', converting reluctant mathematicians into resilient and confident learners.



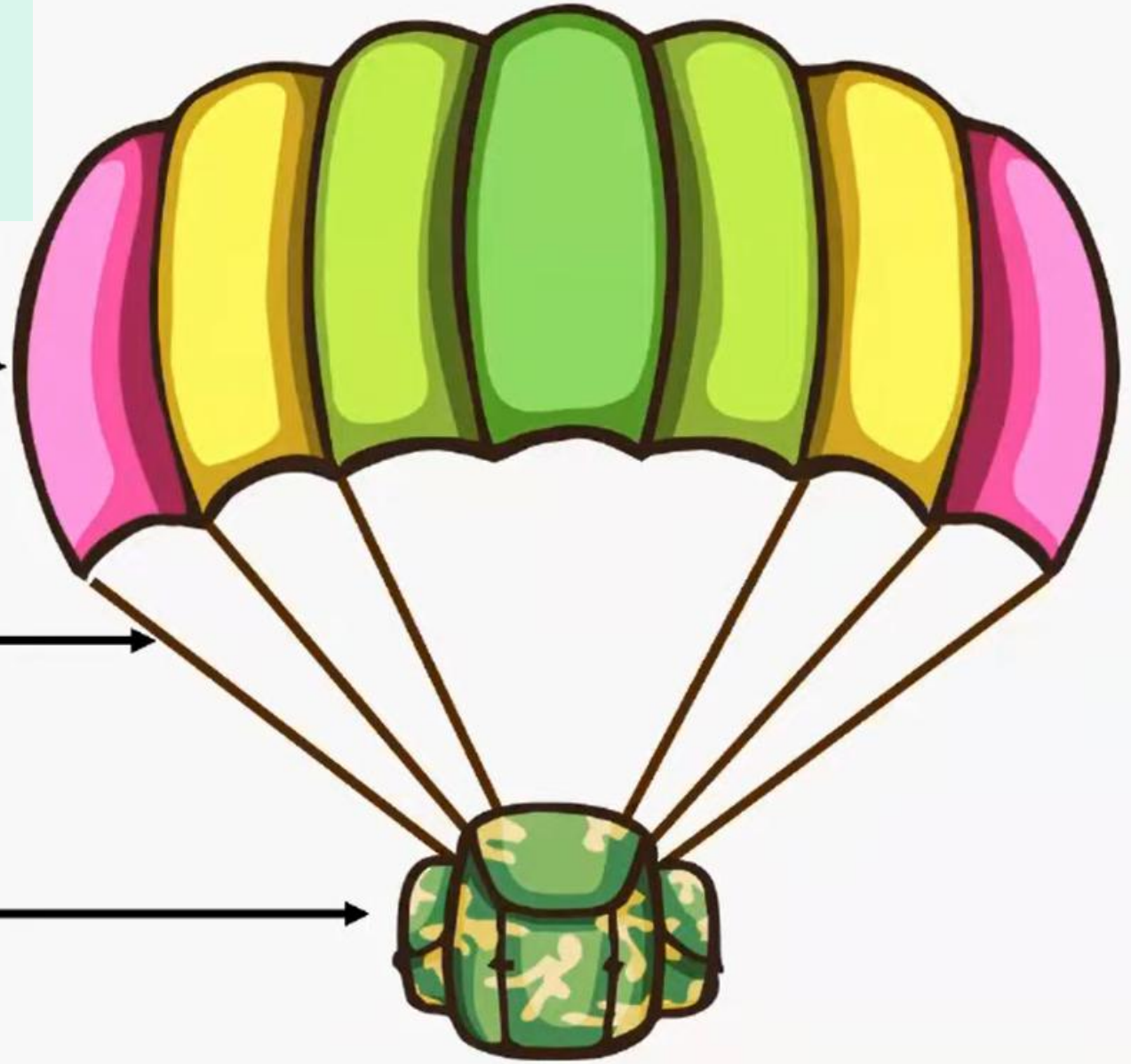
Teacher - led scaffolding that requires the children to text mark to connect the knowledge to the problem.

The culture and ethos at Leasowes is about breaking the perception of 'I can't do maths', converting reluctant mathematicians into resilient and confident learners.

Problem solving and reasoning

Making connections and applying the knowledge

Knowledge



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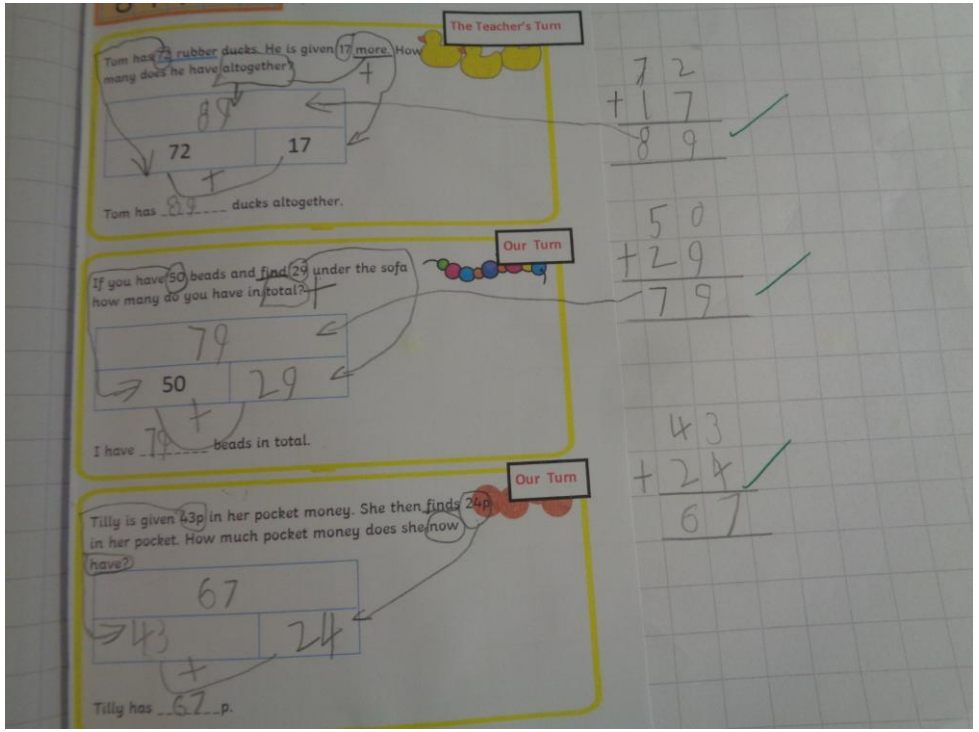
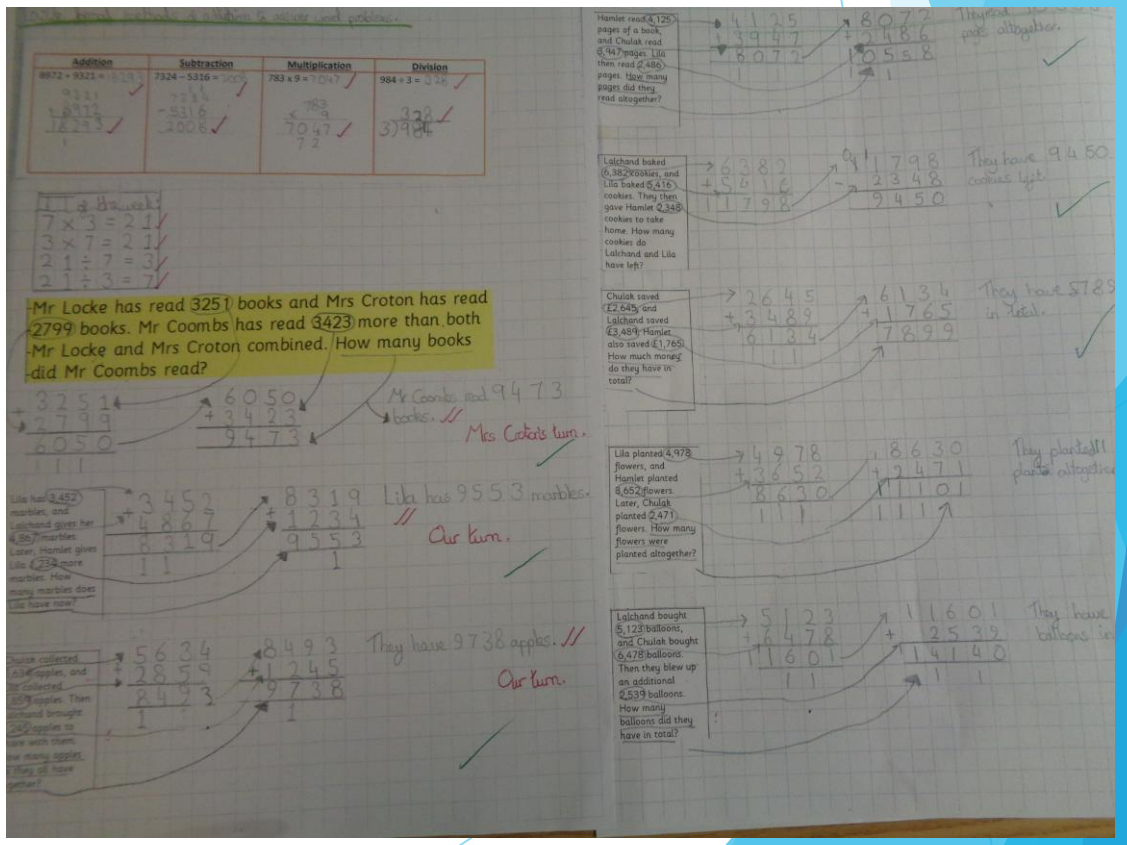




Scaffolded teacher – led worked examples
The FAME approach

F – fading
A – alternating
M – minimalist
E - explanation

Once the children have experienced complete teacher-led worked examples, scaffolding can be structured to move towards independence.

F - fading
A - alternating
M - minimalist
E - explanation

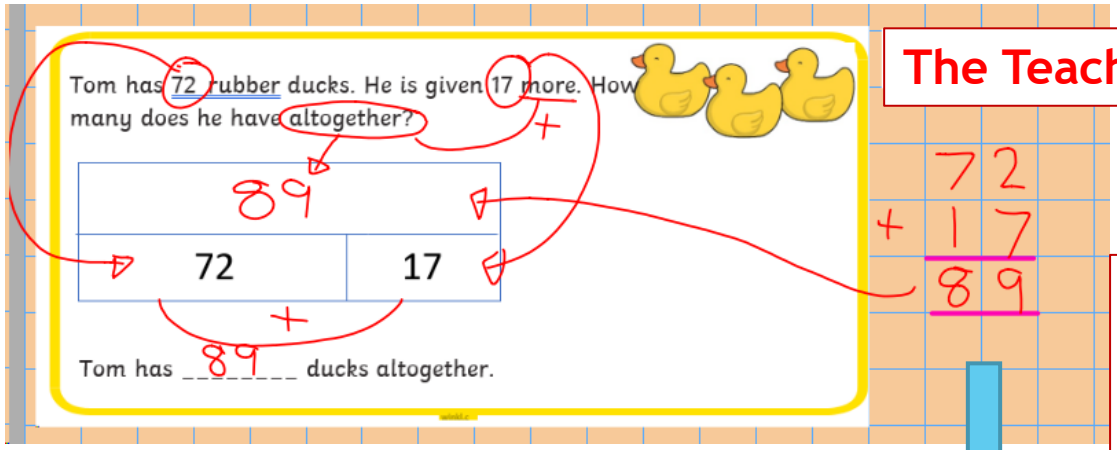
Faded Approach

This involves progressively reducing support—starting with fully worked examples, then partially worked examples, and finally independent problem solving.

- Smooth Transition to independence
- Children gradually take on more responsibility, which builds confidence and autonomy.
- Scaffolded complexity reduces the risk of failure by slowly increasing difficulty and cognitive demand.
- Encourages deep understanding by filling in missing steps over time, children internalise the problem-solving processes.

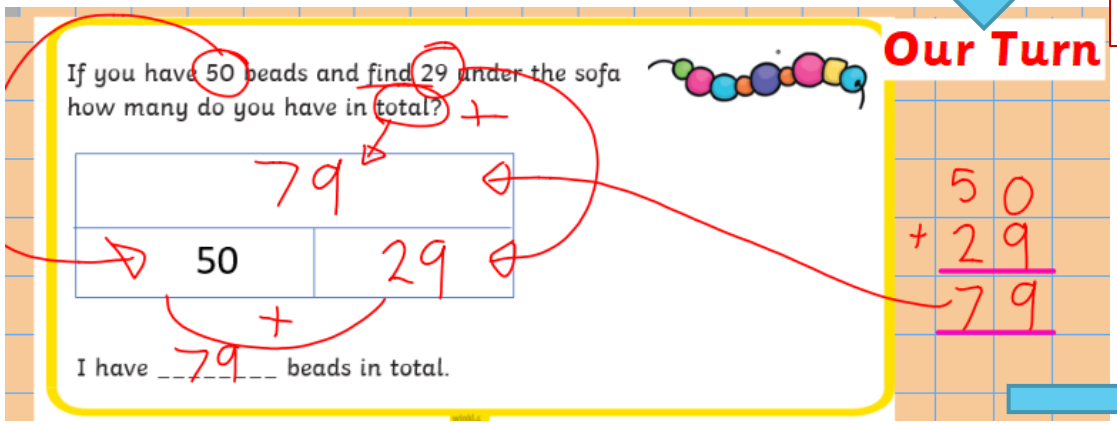
Faded Approach

F - fading
A - alternating
M - minimalist
E - explanation

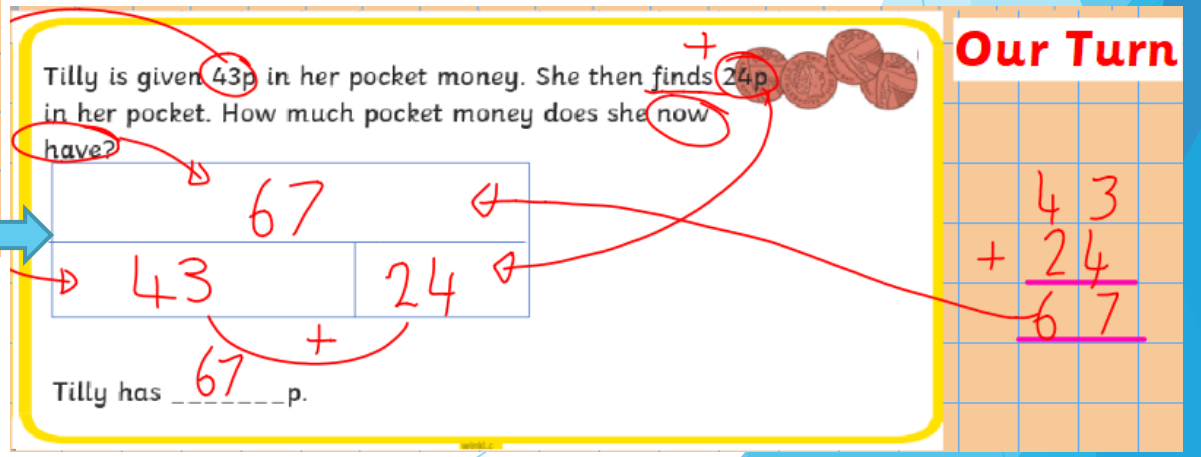


The Teacher's Turn

Here the problem has been gradually faded. As long as the children text mark then they will be able to solve it.



Our Turn



Our Turn

There is a copy of this on your desks.

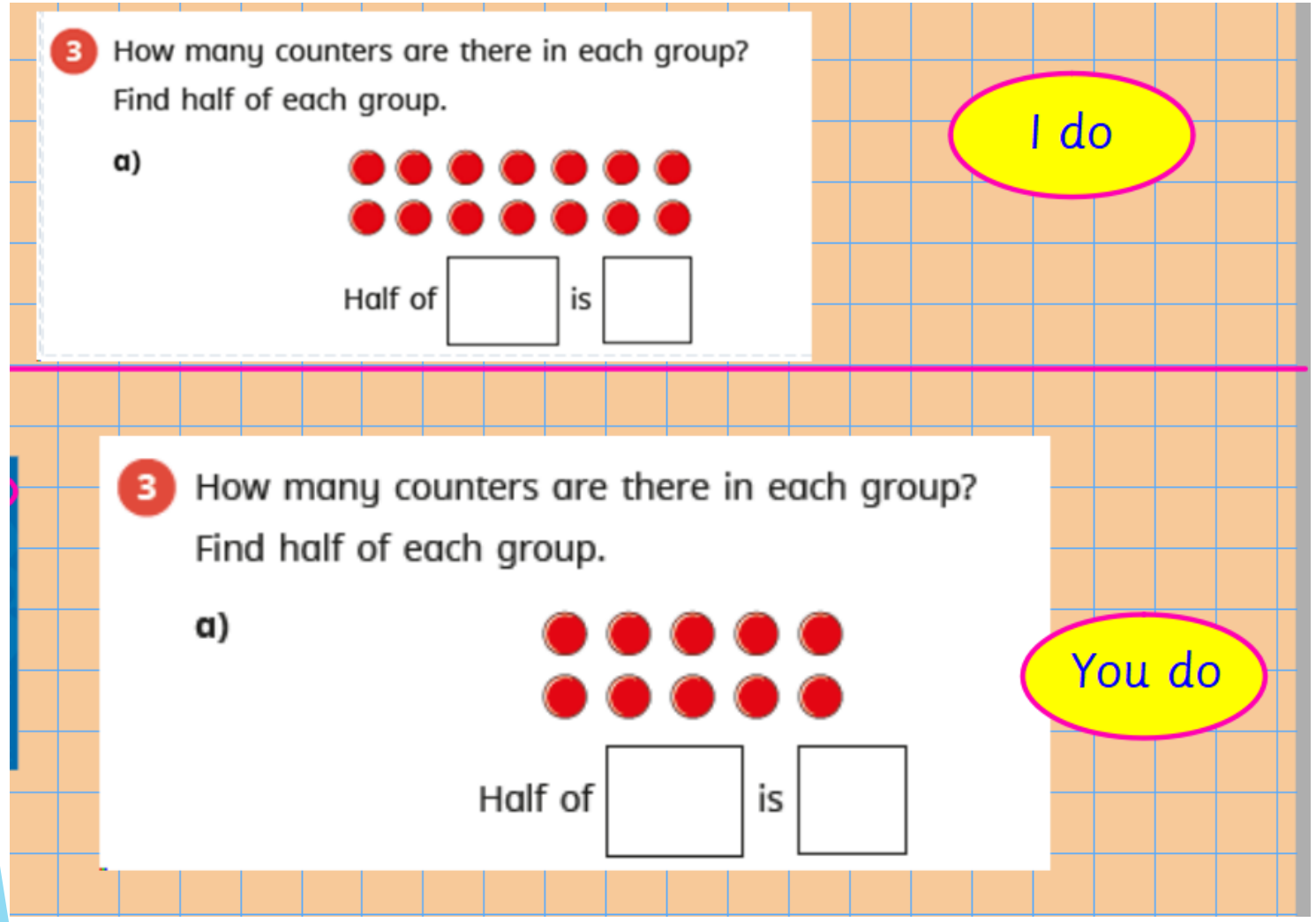
F – fading
A – alternating
M – minimalist
E - explanation

Alternating Approach

This involves switching between worked examples and problem-solving tasks in an I do / you do sequence.

- Reduces cognitive load gradually because children alternate between observing and applying. This prevents overload by breaking down complex tasks into manageable chunks.
- Promotes active engagement – by alternating it keeps children mentally active. After seeing an example, they immediately apply the concept, reinforcing learning.
- Supports immediate transfer - children can directly connect the example to their own attempt, strengthening the link between theory and practice.
- Beneficial for lower attainers or children who need both frequent guidance but also opportunities to practice without feeling overwhelmed.

Teacher-led worked example - Alternating



F – fading
A – alternating
M – minimalist
E - explanation

Minimalist Approach

This involves providing only essential information and steps and avoiding any unnecessary details. It reduces cognitive load and encourages active learning.

- Helps prevent confusion and mental overload.
- Speeds up learning
- **Improves retention** focusing on core ideas makes it **easier** for children to **remember key strategies**.
- Reinforces **fundamental skills** without distractions.
- **Builds confidence**

Minimalist Approach

F – fading
A – alternating
M – minimalist
E - explanation

3 At the weekend, Dad drives 208 miles from London to Manchester and then he drives 213 miles to Glasgow. How far did he travel altogether?

The original problem.

3 Dad drives **208 miles** and then **213 miles**. How far did he travel **altogether**?

208 miles	213 miles

Minimalist adapted version.

A New Way to Problem Solve!

F - fading
A - alternating
M - minimalist
E - explanation

The culture and ethos at Leasowes is about breaking the perception of 'I can't do maths', converting reluctant mathematicians into resilient and confident learners.

Helping your child at home…

- Encourage annotations and text – marking on problems.
- Complete one alongside your child so they can see and hear your thinking.
- When playing games, play "My turn / Your Turn" for example the child asks you a question and you ask one back.

Quiz

For each question, you will have 10 seconds to write your answers in the box.

Ready…Steady…the quiz starts…NOW!

Question 1

What does **C.P.A.** *stand for?*

Ready…Steady…the quiz starts…NOW!

Question 2

What is this pictorial image?

$5 + 5 + 5 + 5 = 20$

$5 \times 4\ 20$

$20 \div 4 = 5$

$20 \div 5 = 4$

Ready…Steady…the quiz starts…NOW!

Question 3

*Which of these **is** a Year 2 fundamental?*

a) Know number bonds to 10 and to 20.

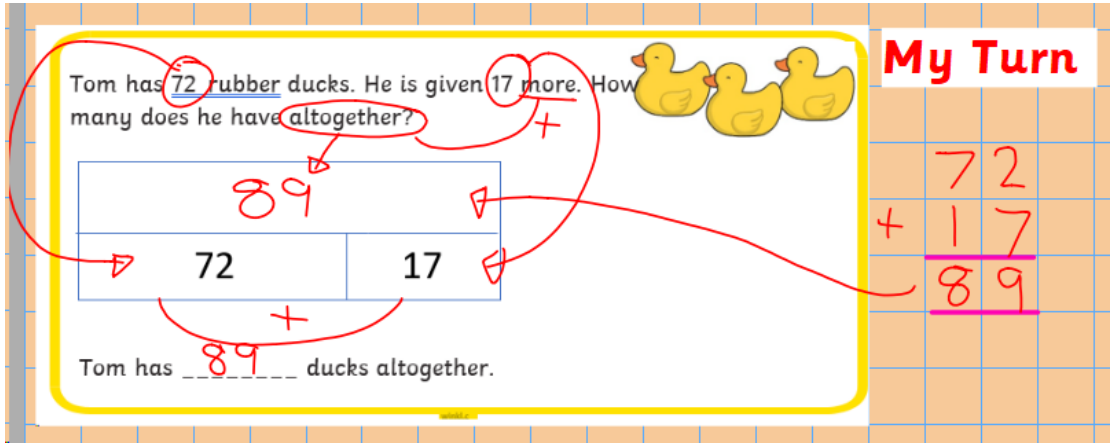
b) Know 2x, 5x, 10x, 3x tables.

c) Identify one more / one less.

Ready…Steady…the quiz starts…NOW!

Question 4

What is this called when we encourage writing on the word problems?



Ready…Steady…the quiz starts…NOW!

Question 5

Can you fill in the missing words in our Maths Curriculum Ethos?

The culture and ethos at Leasowes is about breaking the perception of 'I can't do maths', converting reluctant mathematicians into _____ and _____ learners.

Ready...Steady...the quiz starts...NOW!

Quiz Part 2

For each question, you will have 5 seconds to write your answers in the box.

Ready…Steady…the quiz starts…NOW!

Question 6

6 x 2 =

Ready…Steady…the quiz starts…NOW!

Question 7

8 x 5 =

Ready…Steady…the quiz starts…NOW!

Question 8

$11 \times 10 =$

Ready…Steady…the quiz starts…NOW!

Question 9

$40 \div 10 =$

Ready…Steady…the quiz starts…NOW!

Question 10

$55 = ? \times 5$

Ready…Steady…the quiz starts…NOW!

Question 11

3 x 3 =

Ready…Steady…the quiz starts…NOW!

Question 12

16 ÷ 2 =

Ready…Steady…the quiz starts…NOW!

Question 13

? = 5 x 5

Ready…Steady…the quiz starts…NOW!

Question 14

8 + 3 + 7 =

Ready…Steady…the quiz starts…NOW!

Question 15

6 + 5 + 6 =

Ready…Steady…the quiz starts…NOW!

Let’s Swap and Mark

Are you ready for the answers?

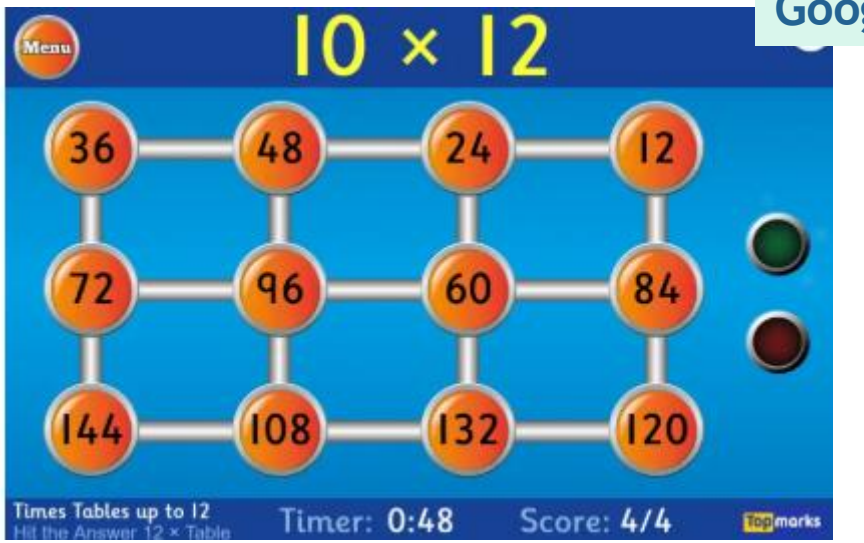
Answers…

1. Concrete, Pictorial, Abstract
2. Bar model
3. It was b - Know 2x, 5x, 10x, 3x tables. (The others were Year 1)
4. Text - marking
5. Resilient, confident
6. 6 x 2 = 12
7. 8 x 5 = 40
8. 11 x 10 = 110
9. 40 ÷ 10 = 4
10. 55 = 11 x 5
11. 3 x 3 = 9
12. 16 ÷ 2 = 8
13. 25 = 5 x 5
14. 8 + 3 + 7 = 18
15. 6 + 5 + 6 = 17

Resources

TT Rockstars

Google: Hit the Button



At home...