Maths Parent Workshop

St Mary's Catholic Academy &

Our Lady of Grace Catholic Academy

Thursday 16th November 2023

Aims of the Session

- To understand the programme of study in mathematics.
- To understand what is meant by 'mastery' in mathematics.
- To understand how maths is taught in our schools, including recent changes.
- To help your child at home and help them to make maths meaningful in their lives.

Ofsted Review in Mathematics

Mathematics is a universal language that helps us to understand the world, and it is a core part of the curriculum. As well as teaching about numbers, shapes, statistics and patterns, it provides important tools for work in areas such as physics, architecture, medicine and business. It helps learners to develop logical and methodical thinking, to focus and to solve a wide range of mathematical problems.

What is 'mastery'?

Mastering maths means pupils of all ages acquiring a deep, long-term, secure and adaptable understanding of the subject. The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths. Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material.

Why mastery?

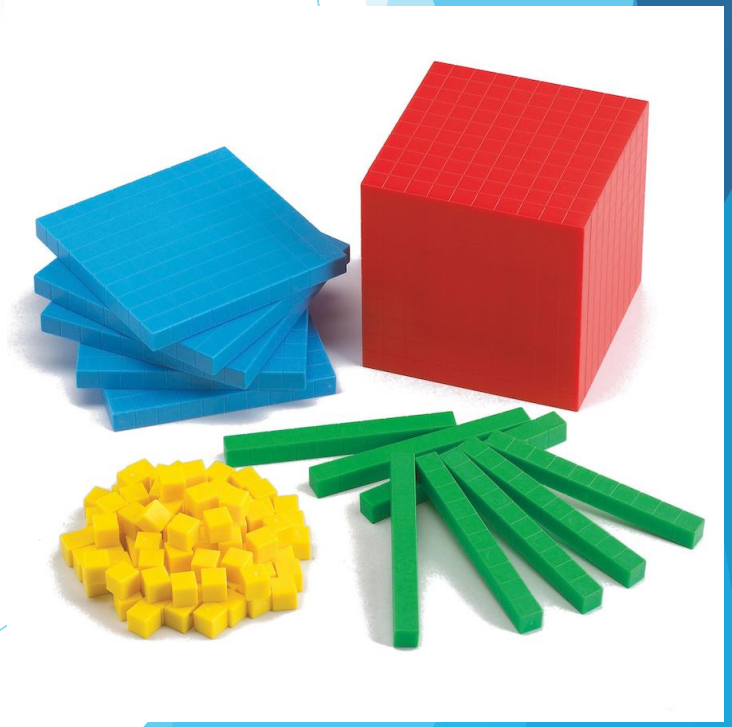
Primary schools

In the last few years, a resounding, positive shift in mathematics education has taken place in primary schools. Curriculum is now at the heart of leaders' decisions and actions. Generic approaches, such as the expectation that all teaching should always be differentiated, have dissipated. We now see high quality curriculums, collaborative support for teachers and a focus on mathematics teaching. Leaders intend that pupils 'keep up, not catch up'. These approaches set out a better path to proficiency for pupils.

How do we achieve the mastery approach?

When teaching maths using the mastery approach, there is a clear focus on the use of concrete manipulatives in lessons, making maths more visual.

Teaching maths in this way creates conceptual understanding, making it possible for pupils to make connections.



Why Power Maths?

- The only mastery programme perfectly aligned to the White Rose Maths progressions and schemes of learning.
- Written specifically for UK curriculum classrooms by leading mastery experts from around the world and recommended by the UK's Department for Education.
- An enriched approach that cleverly combines interactive teaching tools, rich and quality textbooks and practice books.
- Built around a child-centred lesson design that models and embeds a growth mindset approach to maths and focuses on helping all children to build a deep understanding of maths concepts.
- Half-termly and end of year tests to reliably track children's progress against Age Related Expectations.

Maths Parent Workshop

Foundation Stage

What does Maths look like in the Early years?

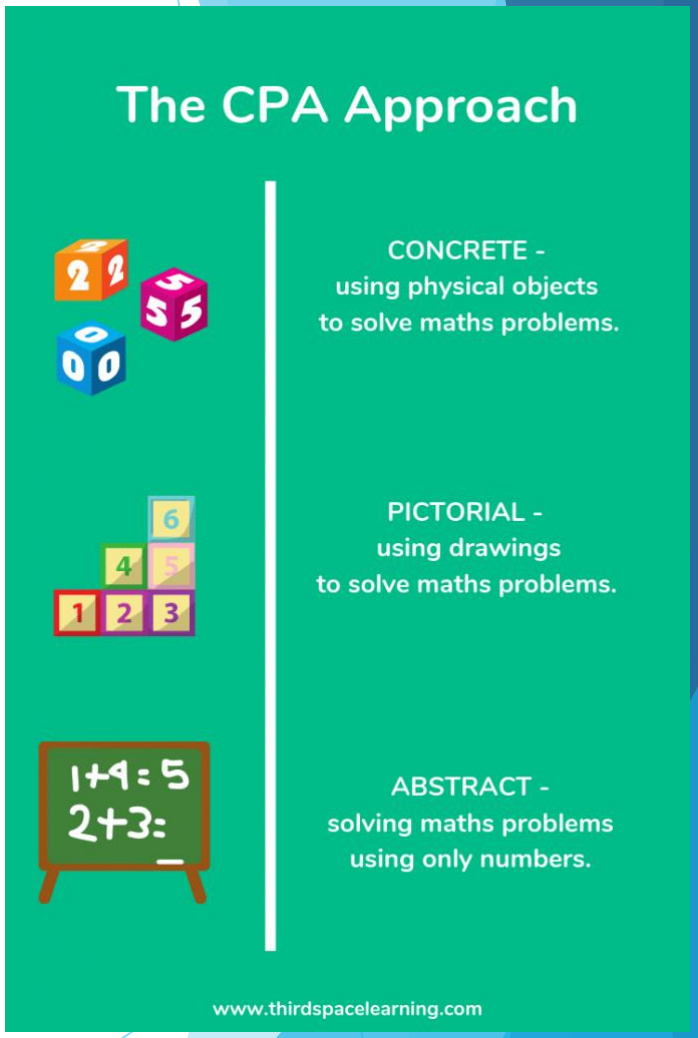
- Teaching input – Nursery – Mastering the curriculum
- Reception – Power Maths/ Mastering number
- 1:1 support and intervention throughout continuous provision (learning trajectory)
- Daily Maths
- Continuous provision

What does maths look like in EYFS?

Mastery starts write from the Early Years

Mastery is –

- Multi dimensional not one dimensional
- Believing maths can be accessible to everyone
- That we can use concrete/pictorial and abstract resources **(concrete resources do not disappear after the Early Years)**

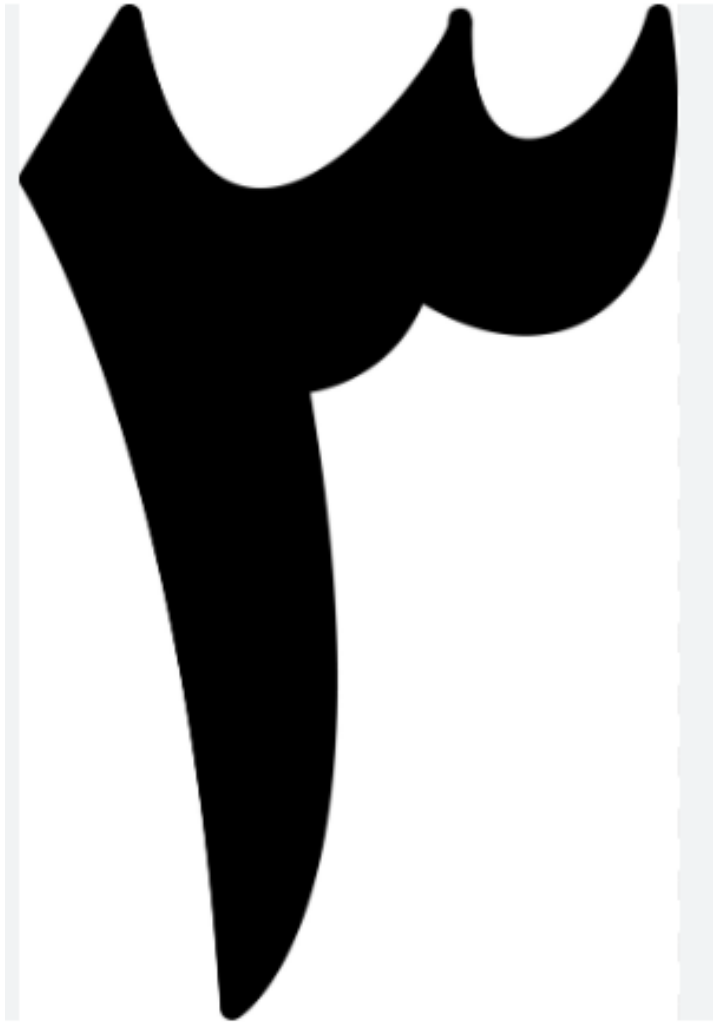


What does maths look like in the Early years

- ‘I know my numbers to 10’
- ‘I cant count to ____’

Why Mastery?

- What do you see?



Why Mastery?

Early Learning Goals

Number

- Have a deep understanding of number to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts

Numerical pattern

- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

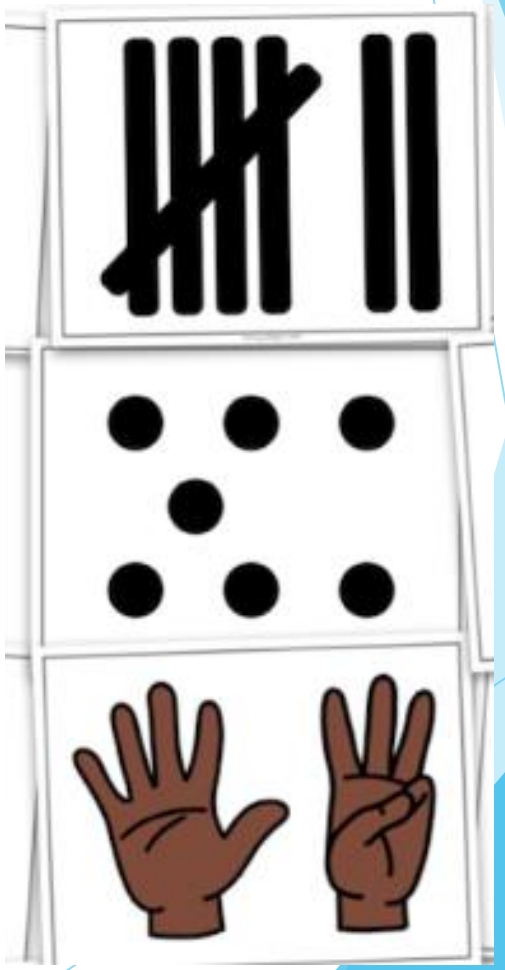
What does Maths look like in the Early years?

- Counting (forwards/backwards/from a given number)
- Numeral Recognition (1, 2, 3, 4….)
- Cardinality – Subitising – Perceptual and Conceptual
- Pattern awareness – repeating/border/grow and shrink/numerical/spotting a mistake
- Spatial cognition
- Composition (Mainly Reception focus)- number bonds

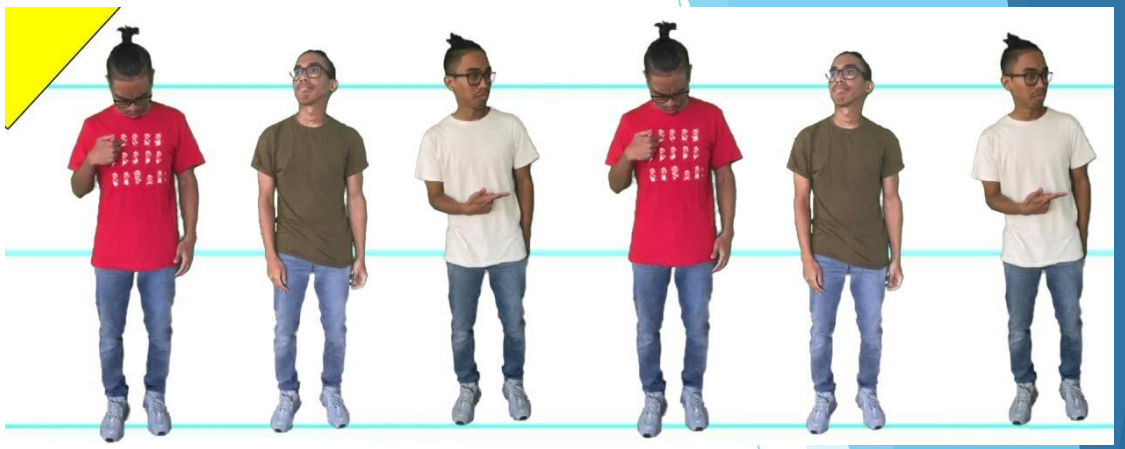
Cardinality – Subitising

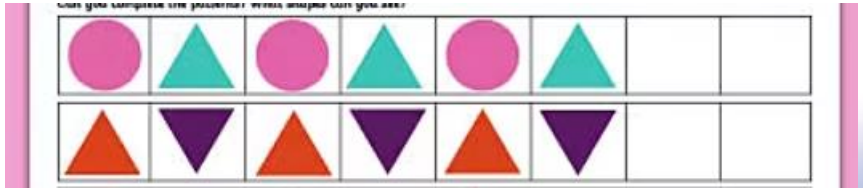
Perceptual –
Instant recognition of how many are in a given set

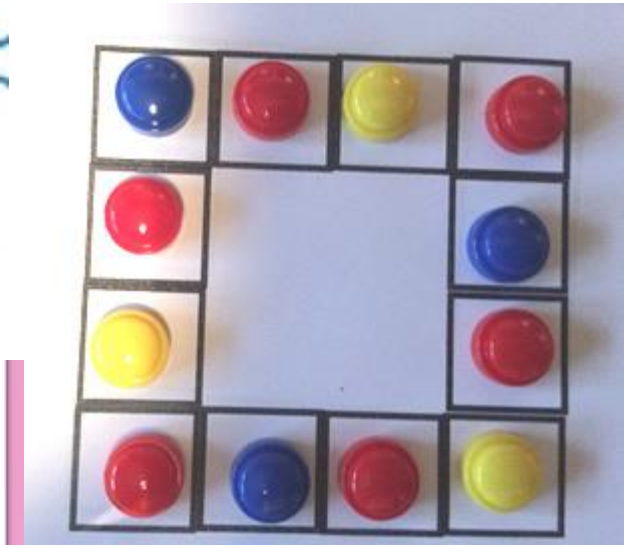
Conceptual subitizing
The ability to see sets of numbers within larger sets



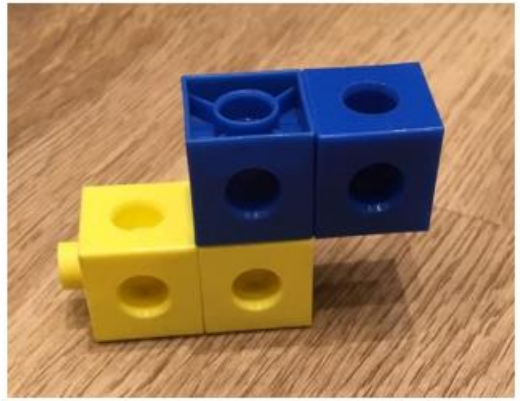
Pattern awareness

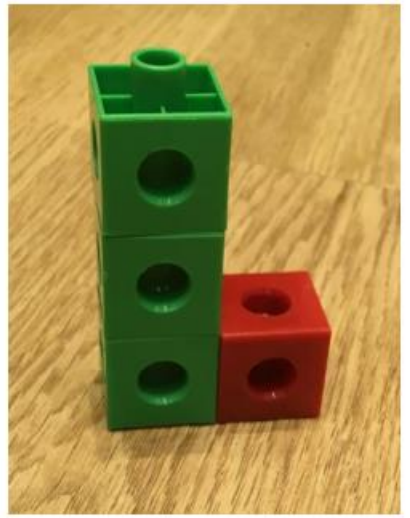




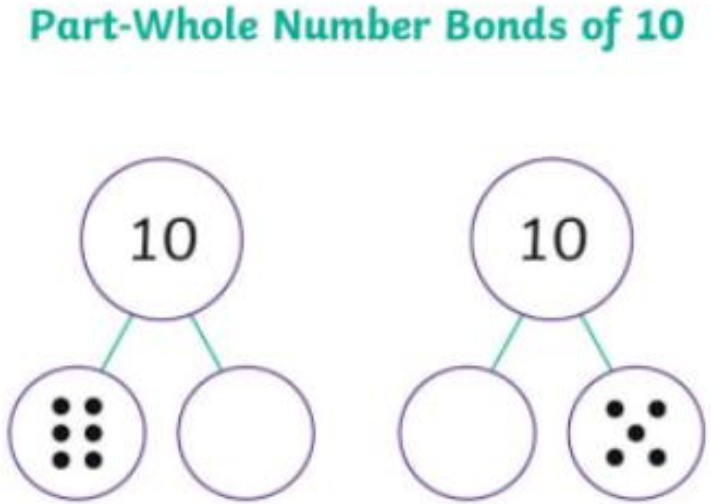


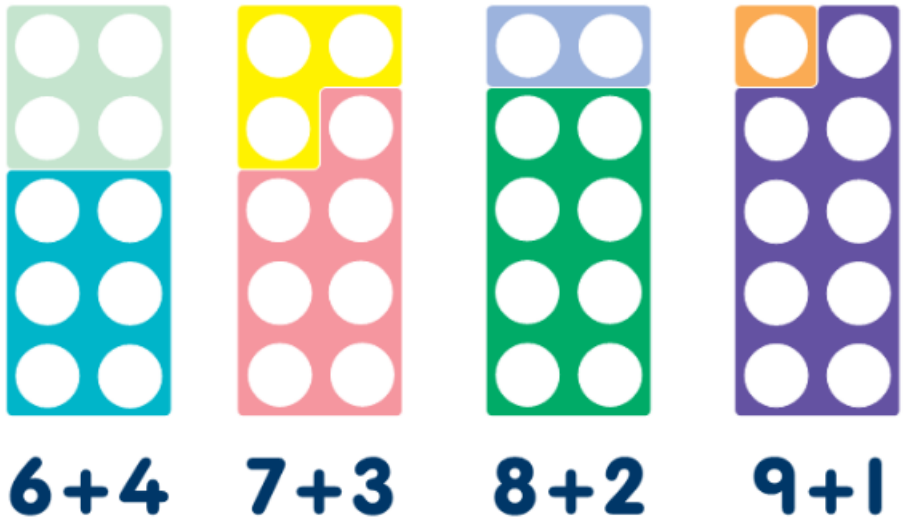
Spatial cognition

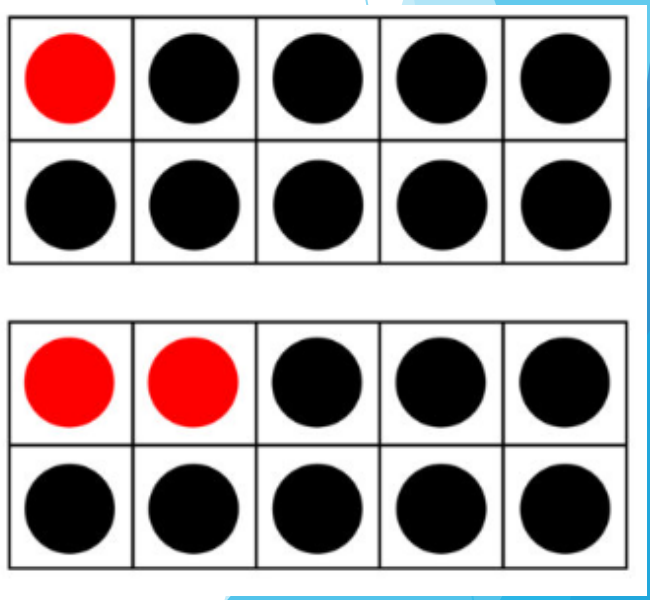




Composition – number bonds







Assessing Maths in EYFS

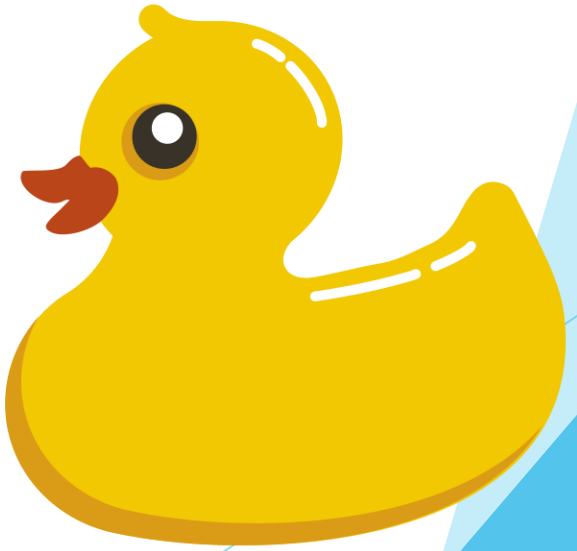
- Ongoing teacher assessments
- Evidence me
- Maths assessments
- Power maths booklets

Maths at home!

- Maths is used everyday in our daily lives and can be made as practical as possible!
- Baking – Measuring, More than / less than, ½ full / ½ empty
- Going shopping - Recognising numbers in the aisles, What number comes next?, What number was before?, Handling money – coins/notes
- Bath time - Playing with different sized containers, Which one holds more?, Which one holds the least?, When is it ½ full
- Outdoors! Patterns, mark making, spatial cognition

Practical Ideas
Bath Time

- Playing with different sized containers.
- Which one holds more?
- Which one holds the least?
- When is it $\frac{1}{2}$ full?



Any Questions?

Maths Parent Workshop

Key Stage 1 & 2

What does maths look like in KS1 & KS2?

A typical maths lesson from Year 1 up to Year 6 will look like this:

Explore

Discussion

Share

Journaling

Guided Practice

Independent Practice

Reflect

Explore

Discover

1 a) Make the number 361 using base 10 equipment.

b) How many steps does Aki have left to climb?

Discussion

Discover

1 a) Make the number 361 using base 10 equipment.

b) How many steps does Aki have left to climb?

ASK

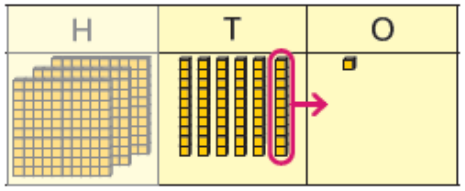
- Question 1 a): *How does the base 10 equipment link to the digits in the number?*
- Question 1 b): *What is the part that is being subtracted?*

Share

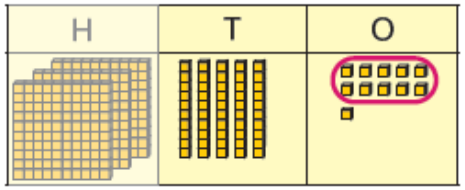
Share

a) and **b)** 361 – 147 = ☐.

Exchange 1 ten for 10 ones.

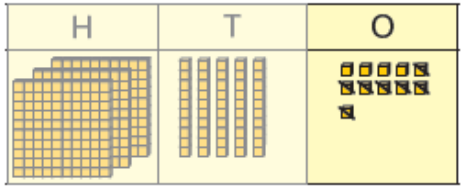


There are now 5 tens and 11 ones.



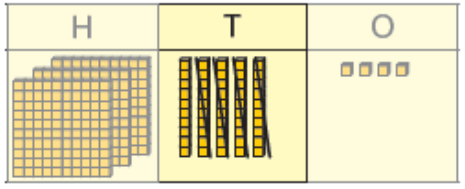
		H	T	O
		3	$^{5}\not{6}$	$^{1}1$
	–	1	4	7

Subtract the 1s.



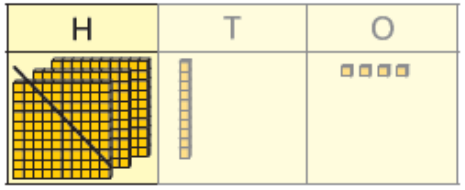
		H	T	O
		3	$^{5}\not{6}$	$^{1}1$
	–	1	4	7
				4

Then subtract the 10s



		H	T	O
		3	$^{5}\not{6}$	$^{1}1$
	–	1	4	7
			1	4

Then subtract the 100s.

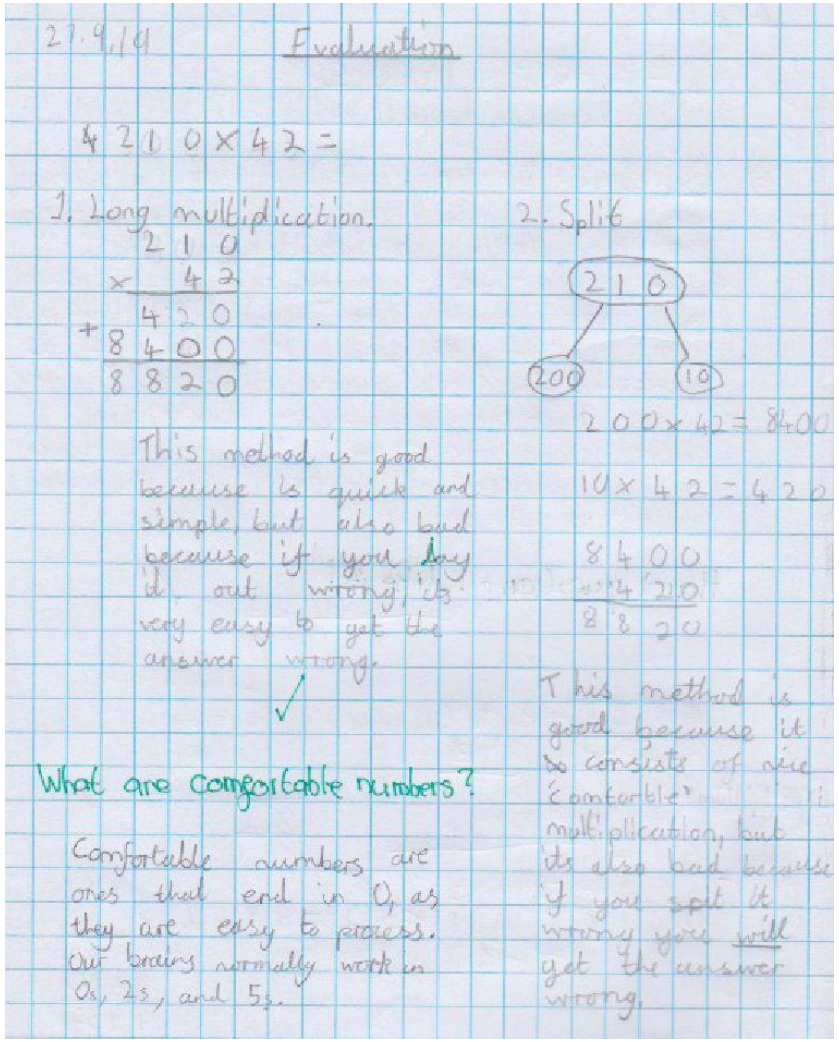


		H	T	O
		3	$^{5}\not{6}$	$^{1}1$
	–	1	4	7
		2	1	4

361 – 147 = 214

Aki has 214 steps left to climb.

Journaling



27.9.19 Evaluation

4 2 1 0 × 4 2 =

1. Long multiplication.

$$\begin{array}{r} 2\,1\,0 \\ \times\ \ 4\,2 \\ \hline 4\,2\,0 \\ +\ 8\,4\,0\,0 \\ \hline 8\,8\,2\,0 \end{array}$$

This method is good because is quick and simple, but also bad because if you lay it out wrong, its very easy to get the answer wrong.

2. Split

210

200 10

200 × 42 = 8400

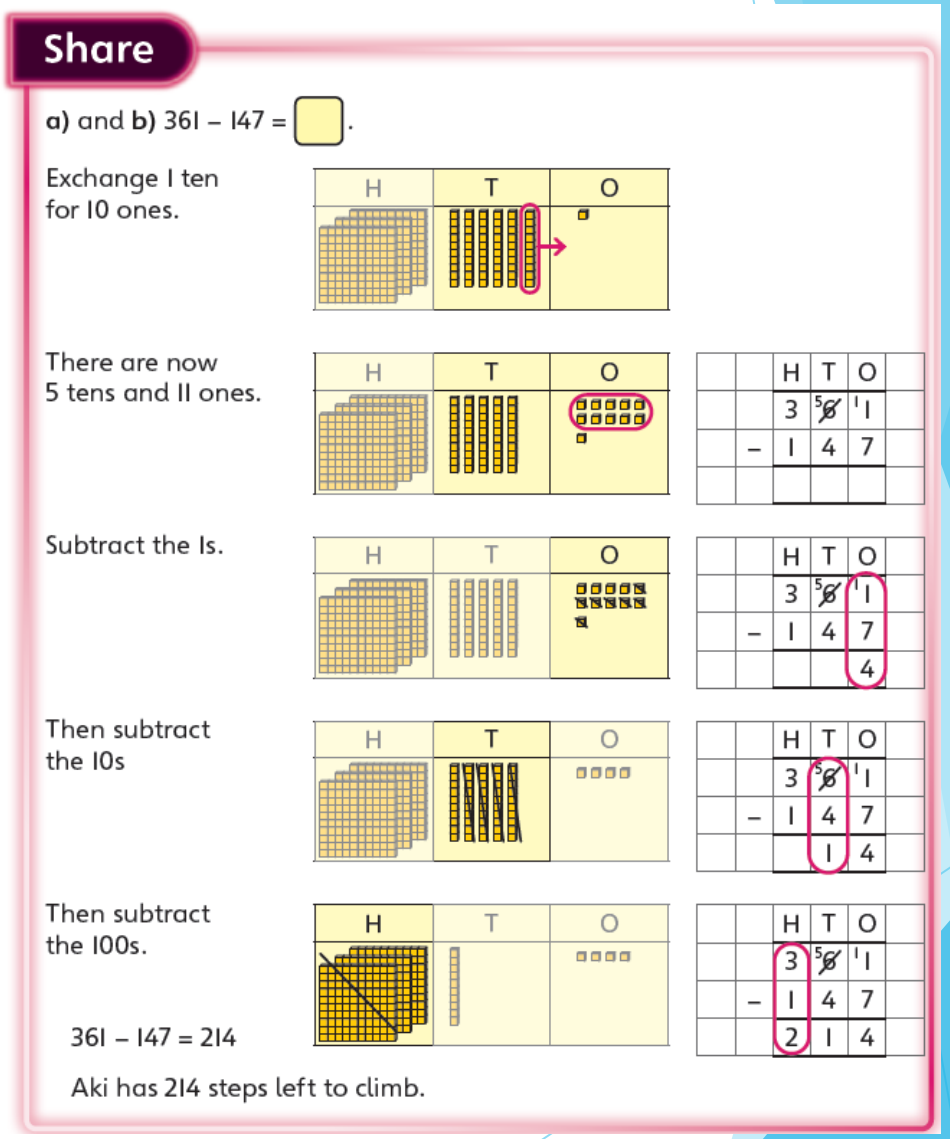
10 × 42 = 420

$$\begin{array}{r} 8\,4\,0\,0 \\ +\ 4\,2\,0 \\ \hline 8\,8\,2\,0 \end{array}$$

This method is good because it consists of nice 'comfortable' multiplication, but its also bad because if you spit it wrong you will get the answer wrong.

What are comfortable numbers?

Comfortable numbers are ones that end in 0, as they are easy to process. Our brains normally work in 0s, 2s, and 5s.



Share

a) and b) 361 – 147 = ☐.

Exchange 1 ten for 10 ones.

There are now 5 tens and 11 ones.

Subtract the 1s.

Then subtract the 10s

Then subtract the 100s.

361 – 147 = 214

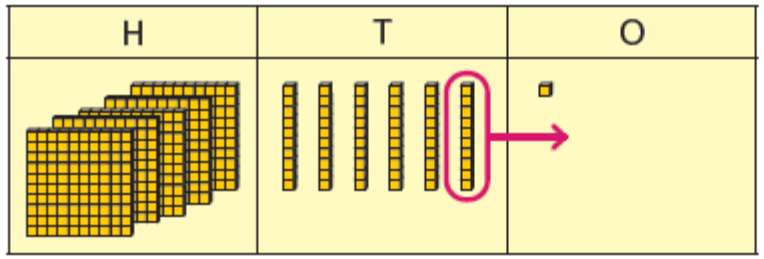
Aki has 214 steps left to climb.

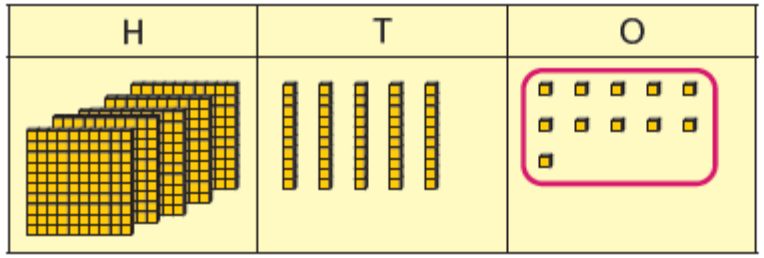
Guided Practice

Think together

1 There are 561 steps to the top of a skyscraper. Lexi has climbed 325.

How many steps does she still have to climb?





		H	T	O	
		5	$^{5}\not{6}$	$^{1}1$	
	−	3	2	5	

ASK

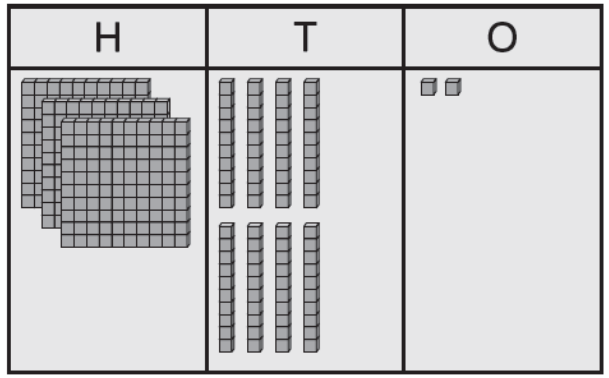
- Question 1: *What is the whole? What is the part being subtracted?*
- Question 2: *How can you tell a mistake has been made? What is the mistake?*

Independent Practice

Subtract two numbers (across 10)

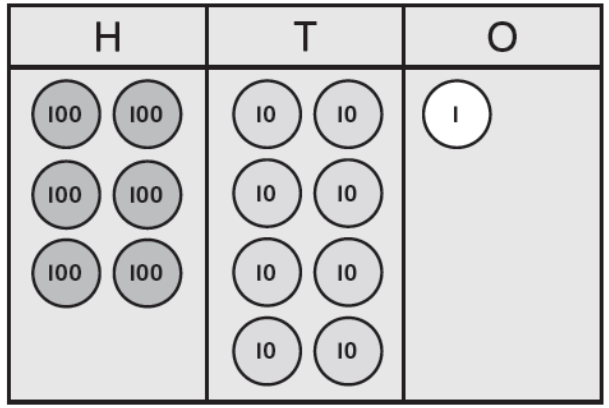
1 Work out

a) 382 – 154 =



		H	T	O	
		3	8	2	
	–	1	5	4	

b) 681 – 235 =

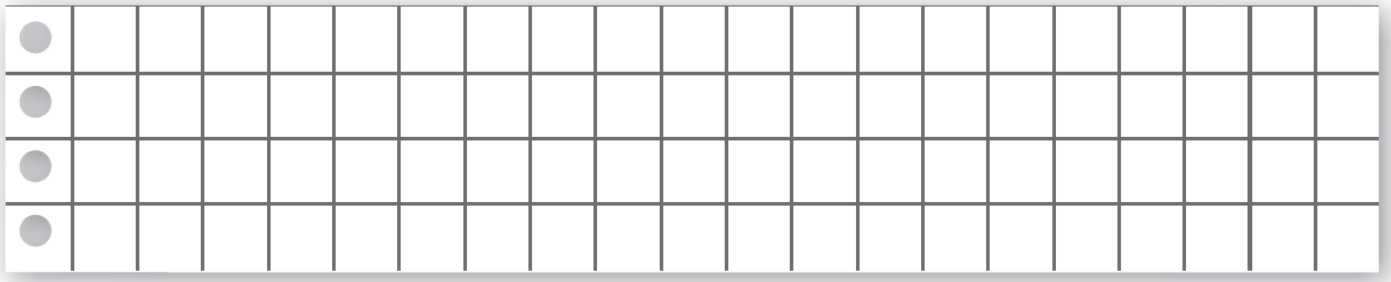


		H	T	O	
		6	8	1	
	–	2	3	5	

Reflect

Reflect

Show a partner the steps to work out 592 – 164.



3 a) Amelia is working out the answer to this question.

CHALLENGE

I know I am going to need to do an exchange.

Amelia

		H	T	O	
		6	9	2	
	–	3	1	7	

How does Amelia know this before answering the question?

b) Work out the missing digits.

482 – 13 ☐ = ☐☐7

482 – 13 ☐ = ☐☐6

482 – 13 ☐ = ☐☐9

Is it something to do with the last number?

It's easy to make a mistake with this sort of question.

Assessing Maths in KS1 & KS2

Ongoing assessments (verbal feedback; live marking; questioning)

NFER termly assessments (used to measure progress and identify gaps in learning)

End of block assessments (Power Maths / White Rose)

Year 4 MTC

End of KS2 Assessments (SATs)

The bigger picture…

- Maths isn't an extra thing to do…and it isn't just a lesson in school. It should be incorporated in our children's everyday experiences.

Calendars

What is the date today?

What will it be tomorrow?

How many days are there in the month we are in?

How many more days are there until the end of the month?

How many days are there until the next school holiday?

How many Saturdays are there in the month we are in?

How many months have 30 days? How many have 31 days?

How many months is it until your birthday?

… until Christmas?

Reading a book

What page number are you on in your book?
Is this an odd or even number?

How many pages have you read so far?

What is the longest word you can find in your book? How many letters has it got?

How many words on this page start with a vowel?

How many more pages do you need to read to finish your book?

Can you find a seven letter word in your book?

What is the shortest and longest book you can find?

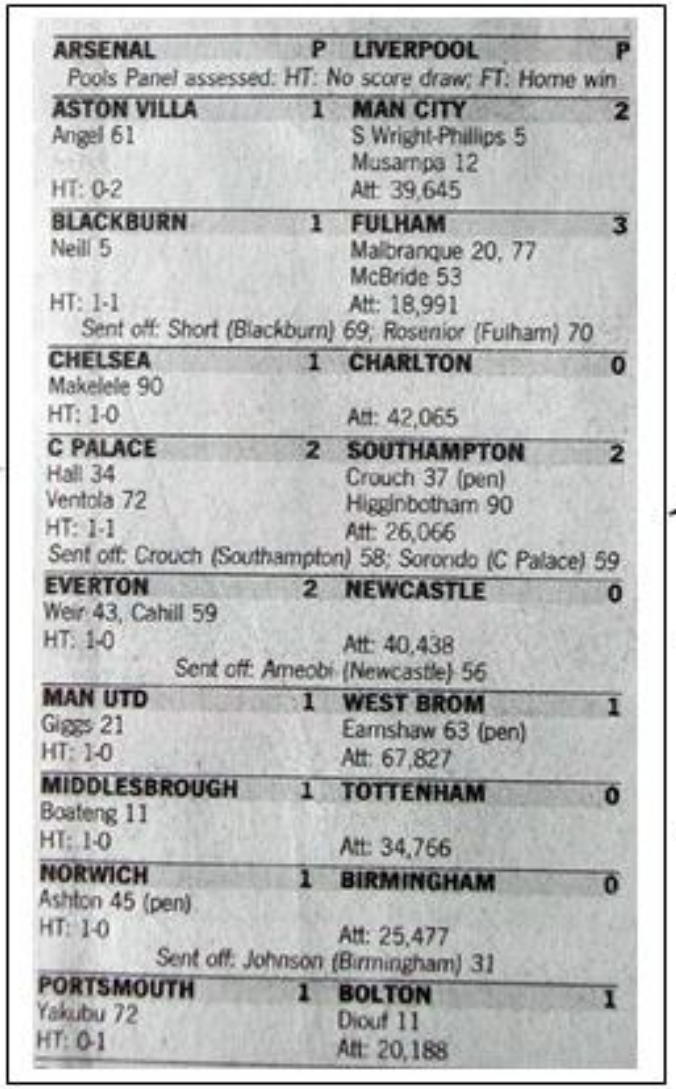
Read the page numbers together. Can you find a number e.g. 27? … 13?

Which team(s) scored the most goals?

Which team(s) scored the least number of goals?

Did your favourite team score more than many other teams?

What is the difference between the highest score and the lowest score?



ARSENAL	P	LIVERPOOL	P
Pools Panel assessed: HT: No score draw; FT: Home win			
ASTON VILLA	**1**	**MAN CITY**	**2**
Angel 61		S Wright-Phillips 5 Musampa 12	
HT: 0-2		Att: 39,645	
BLACKBURN	**1**	**FULHAM**	**3**
Neill 5		Malbranque 20, 77 McBride 53	
HT: 1-1		Att: 18,991	
Sent off: Short (Blackburn) 69; Rosenior (Fulham) 70			
CHELSEA	**1**	**CHARLTON**	**0**
Makelele 90			
HT: 1-0		Att: 42,065	
C PALACE	**2**	**SOUTHAMPTON**	**2**
Hall 34 Ventola 72		Crouch 37 (pen) Higginbotham 90	
HT: 1-1		Att: 26,066	
Sent off: Crouch (Southampton) 58; Sorondo (C Palace) 59			
EVERTON	**2**	**NEWCASTLE**	**0**
Weir 43, Cahill 59			
HT: 1-0		Att: 40,438	
Sent off: Ameobi (Newcastle) 56			
MAN UTD	**1**	**WEST BROM**	**1**
Giggs 21		Earnshaw 63 (pen)	
HT: 1-0		Att: 67,827	
MIDDLESBROUGH	**1**	**TOTTENHAM**	**0**
Boateng 11			
HT: 1-0		Att: 34,766	
NORWICH	**1**	**BIRMINGHAM**	**0**
Ashton 45 (pen)			
HT: 1-0		Att: 25,477	
Sent off: Johnson (Birmingham) 31			
PORTSMOUTH	**1**	**BOLTON**	**1**
Yakubu 72		Diouf 11	
HT: 0-1		Att: 20,188	

Football scores

Which game(s) had the most goals scored?

If you add all of the goals together what is the total?

How many teams scored:
1 goal?
2 goals?
3 goals?

How many teams have names beginning with a vowel?

Shoes and clothes

Who has got the biggest shoe in the family? How many cm long is it?

How many pairs of socks have you got? How many socks is that?

Which is longer: the legs of your trousers or the arms of your jumper? How much longer?

How many T-shirts do you have? Sort them by colour. How many more blue T-shirts do you have than red?

Are any of your clothes symmetrical?

Look at the labels in your clothes. Can you find out what temperature the water should be when your clothes are washed?

Look at the labels in your clothes for a waist size, chest size or height. Measure yourself to check you have the right sized clothes.

Measure the zip on your jacket and an adult's jacket. Which is longer? How much longer?

TTRS

Builds confidence

Resilience

Fun, friendly competitions

In-house battles and national tournaments

Good practice for Year 4 MTC

99 Club Challenge

"44 Club" Silver

1)	1 x 4 =	2)	5 x 3 =	3)	36 ÷ 3 =
4)	3 x 8 =	5)	4 x 11 =	6)	33 ÷ 3 =
7)	21 ÷ 3 =	8)	8 x 3 =	9)	6 x 3 =
10)	36 ÷ 4 =	11)	33 ÷ 11 =	12)	4 x 4 =
13)	16 ÷ 4 =	14)	10 x 6 =	15)	50 ÷ 10 =
16)	3 x 1 =	17)	24 ÷ 3 =	18)	5 x 4 =
19)	4 x 3 =	20)	21 ÷ 7 =	21)	3 x 3 =
22)	10 x 8 =	23)	20 ÷ 4 =	24)	28 ÷ 4 =
25)	12 x 4 =	26)	7 x 2 =	27)	5 x 8 =
28)	3 x 9 =	29)	48 ÷ 4 =	30)	7 x 3 =
31)	30 ÷ 3 =	32)	9 x 5 =	33)	60 ÷ 12 =
34)	4 x 9 =	35)	24 ÷ 4 =	36)	27 ÷ 4 =
37)	3 x 12 =	38)	25 ÷ 5 =	39)	12 x 2 =
40)	9 x 3 =	41)	12 ÷ 3 =	42)	10 x 3 =
43)	12 ÷ 4 =	44)	11 x 4 =		

99 Club Progression

Bronze – multiplication facts:

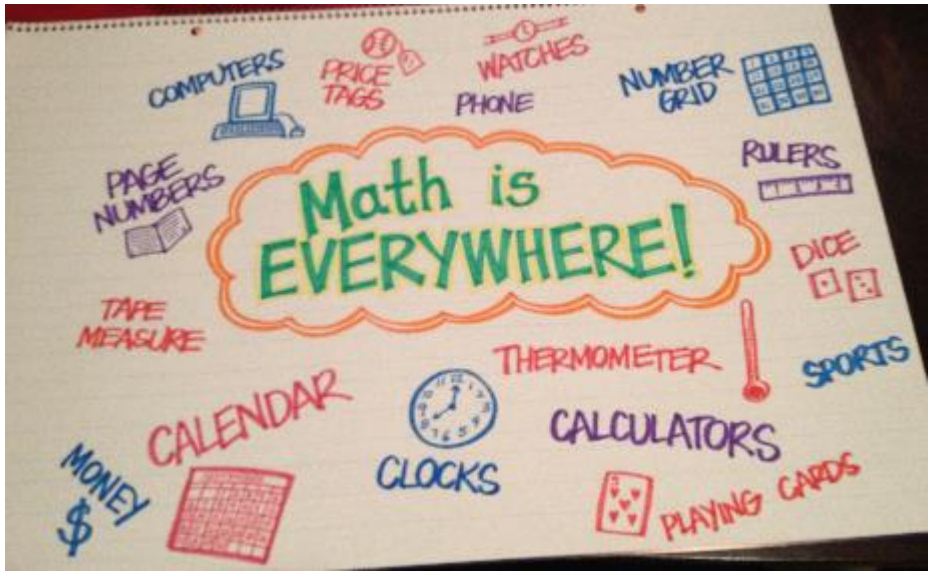
11 Club – 11 questions on the 1x table (1.5 mins)
22 Club - 22 questions involving doubling numbers from one to ten and 2x (2 mins)
33 Club - 33 questions introducing the 2x, 5x and 10x tables (2.5 mins)
44 Club - 44 questions introducing the 3x and 4x tables (3 mins)
55 Club - 55 questions introducing the 8x and 6x tables (3.5 mins)
66 Club - 66 questions introducing the 9x tables (4 mins)
77 Club - 77 questions introducing the 7x tables (4.5 mins)
88 Club - 88 questions introducing the 11x and 12x tables (5 mins)
99 Club - 99 questions on missing number facts (5.5 mins)

Silver – multiplication and division facts:

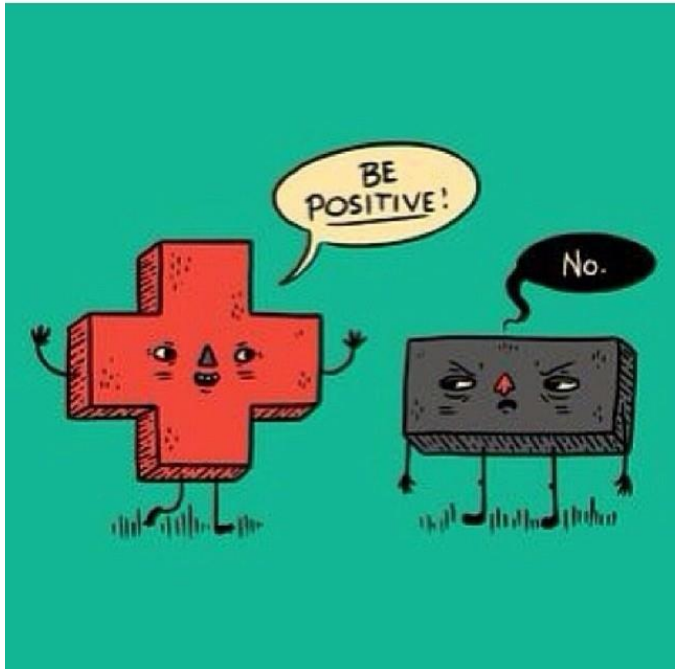
11 Club – 11 questions on the 1x table (1.5 mins)
22 Club - 22 questions involving doubling and halving numbers from one to ten and 2x (2 mins)
33 Club - 33 questions on the 2x, 5x and 10x tables (2.5 mins)
44 Club - 44 questions on the 3x and 4x tables (3 mins)
55 Club - 55 questions on the 8x and 6x tables (3.5 mins)
66 Club - 66 questions on the 9x tables (4 mins)
77 Club - 77 questions on the 7x tables (4.5 mins)
88 Club - 88 questions on the 11x and 12x tables (5 mins)
99 Club - 99 questions on missing number facts (5.5 mins)

Gold – multiplication facts, division facts and wider skills (e.g. indices, fractions of amounts…)

Maths really is everywhere…



A final thought…



Around 34% of adults openly admit that they are 'bad at maths' in front of their children

Math

Any Questions?