



PARENT WORKSHOP: TIMES TABLES

Thursday 16th January

Aims of this morning



Watch part of a year 4 multiplication session



To understand the Horn Park approach to the teaching of multiplication facts



To takeaway ideas of how to support your children at home



Any reflections or
questions having
watched a multiplication
session?

Session 4	<p>Pupils will:</p> <ul style="list-style-type: none"> recall the products for 5×9 and 3×4 write corresponding multiplication and division facts for 4×8 practise recalling the product for 4×8 using the oral pattern and gestures.
Revisit	<p>Display slide 48 of the presentation, then use slides 48–49 to quickly recap the product for each of the facts shown.</p>
Teach and practise	<p>Display slide 50 to remind pupils of the focus fact, $4 \times 8 = 32$, and how knowing the product for 4×8 means they also know the product for 8×4.</p> <p>Display slide 51 to introduce the Understand section, then display slide 52. Ask pupils to write the corresponding facts for $4 \times 8 = 32$ before animating the slide to reveal the answers.</p> <p>Use slide 53 to recap the representation used in the previous session, which shows that the product of 4 and 8 can be derived by subtracting 8 from the product of 5 and 8. Pupils may now be able to explain this without the support of the animations.</p> <p>Work through slide 54 to remind pupils of the strategy of doubling and doubling again to find the product when 4 is a factor.</p> <p>Use the optional slide 55 if pupils are not fluent in doubling 16. [Note that unitised counters were first used to double 16 in Week 3.]</p> <p>Introduce and practise the stem sentence: Double 10 is ____ ; Double ____ is ____ ; 20 and ____ is ____ , so double ____ is ____ .</p> <p>Display slide 56 to introduce the Explain section, then display slide 57 and read the introductory text aloud.</p> <p>Encourage pupils to discuss their ideas with a partner, then use the animations on the slide to support their reasoning. You may also wish to ask questions, for example:</p> <p><i>How can Cal be sure that the product of 4 and 8 is even? What might Cal notice about the factors?</i></p> <p>Introduce and practise the generalised statement: Where at least one of the factors is even, the product is even.</p> <p>Display slide 58 to introduce the Say section, then use slide 59 to prompt pupils to practise saying the fact “four, eight, thirty-two” for each representation shown to secure their recall of the verbal pattern.</p> <p>Display slide 60 and prompt pupils to use their packs of cards to practise retrieving facts.</p> <p>Display the CMF table on slide 61 to conclude the session. The expression 4×8 is now also shaded in gold to remind pupils that, now they have learned this fact, they have reduced the number of facts they still need to learn to 15.</p>
Resources	<p>Mini-whiteboards and pens/writing paper and pencils [1 for each pupil]</p> <p>Pupils’ packs of practice cards from previous sessions</p>

Cal finds 4×8 by doubling and doubling again.
What numbers are missing in the boxes?

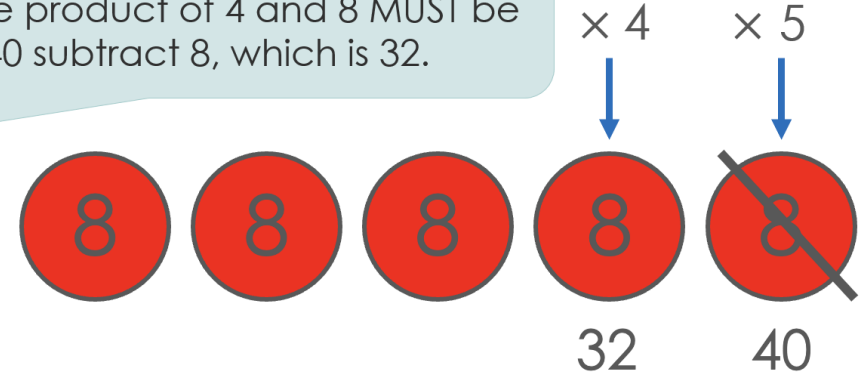


$$4 \times 8 = \text{[starburst]}$$

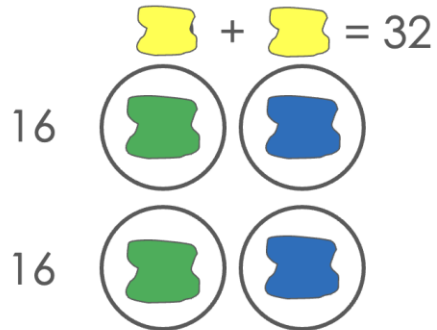
Mo draws this representation for 4×8 .
Describe WHY it shows $4 \times 8 = 32$.



5×8 is 40. 4×8 is 8 less than 5×8 .
So, the product of 4 and 8 MUST be 40 subtract 8, which is 32.



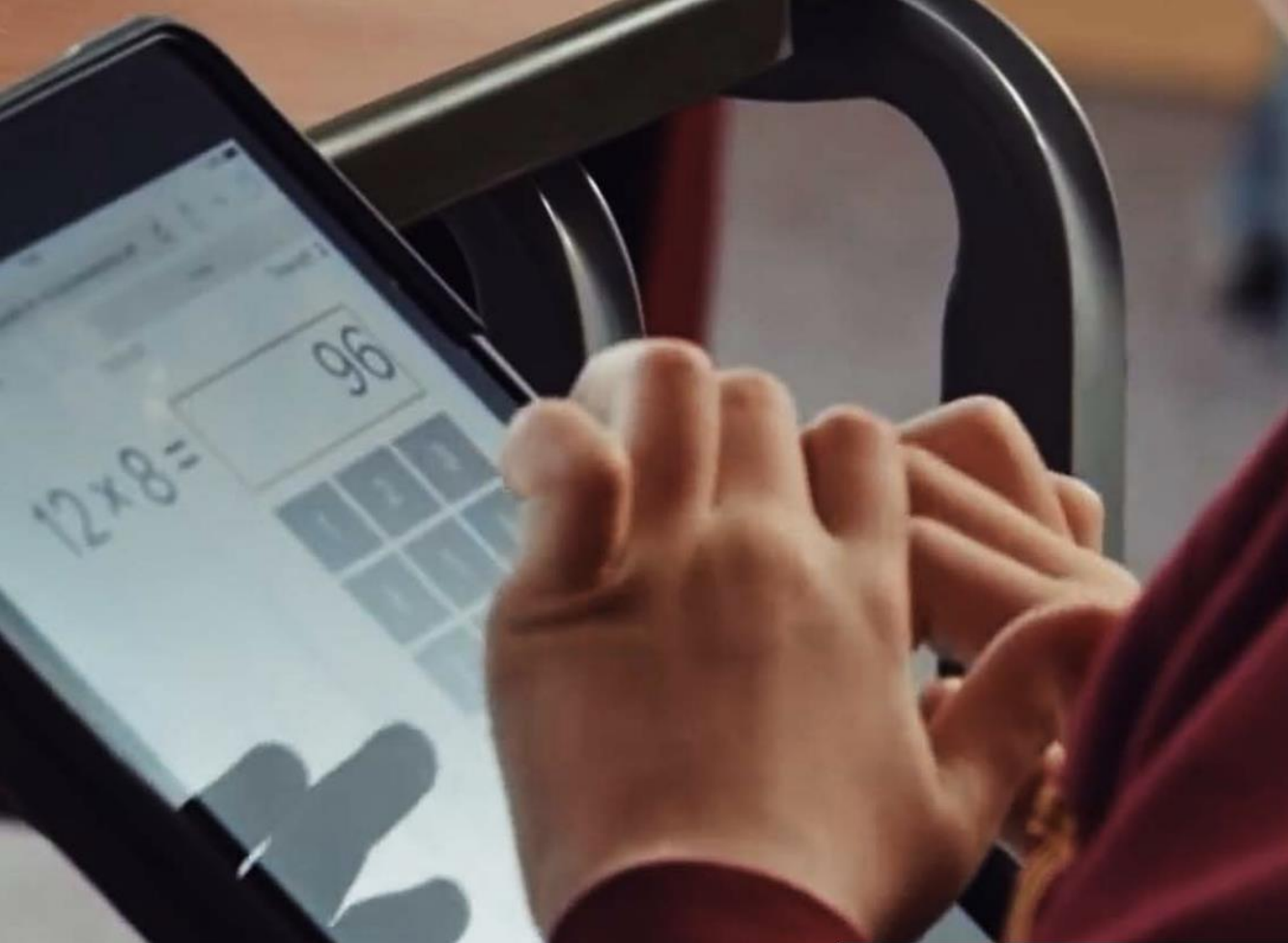
How do the counters help us find double 16?



Double 10 is ____; Double ____ is ____;
20 and ____ is ____, so double ____ is ____.

2 2								
2 3	3 3							
2 4	3 4	4 4						
2 5	3 5	4 5	5 5					
2 6	3 6	4 6	5 6	6 6				
2 7	3 7	4 7	5 7	6 7	7 7			
2 8	3 8	4 8	5 8	6 8	7 8	8 8		
2 9	3 9	4 9	5 9	6 9	7 9	8 9	9 9	

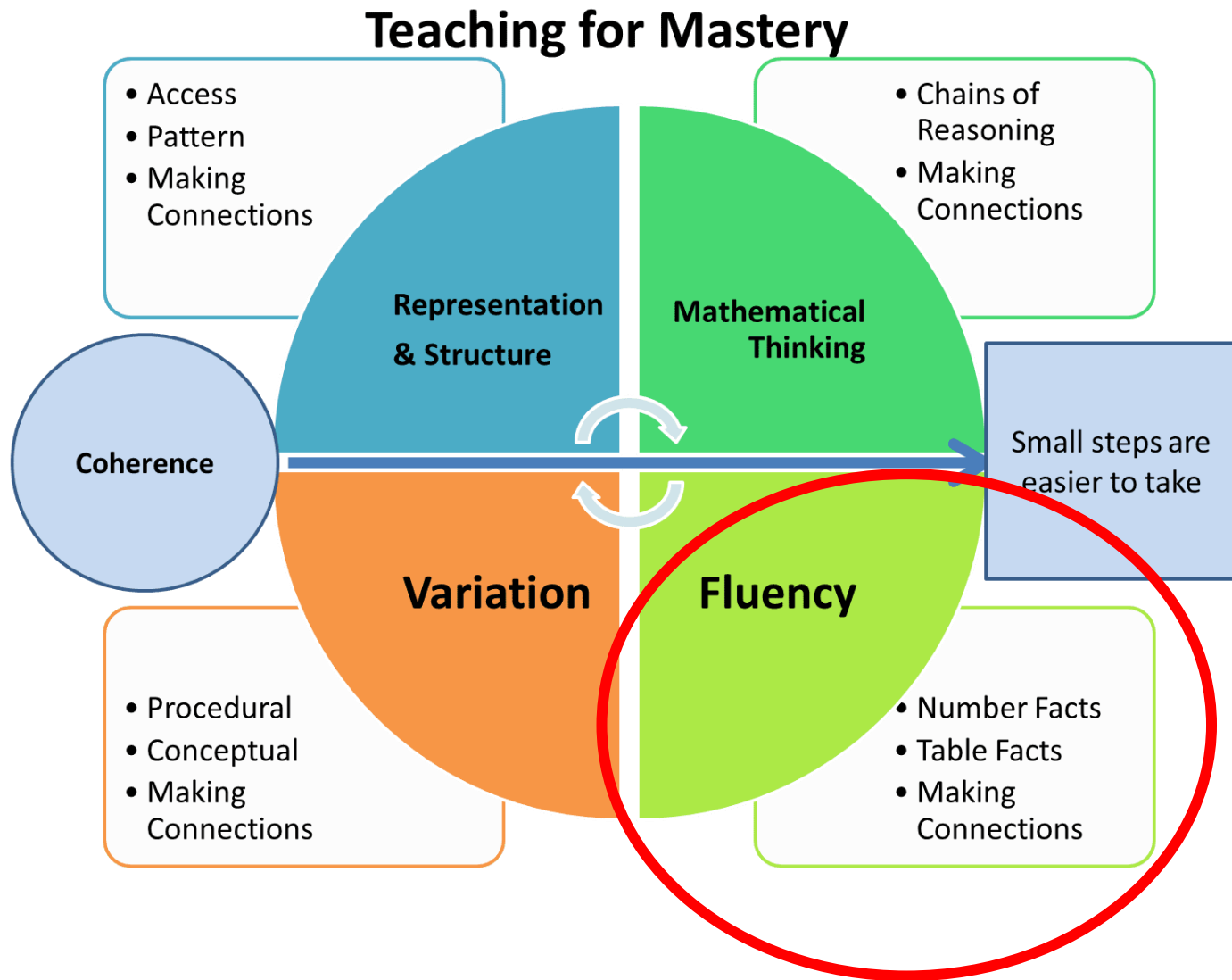
21 Gold
15 to go!



Standards
& Testing
Agency

MTC check

- The multiplication tables check (MTC) is statutory for all year 4 pupils
- The purpose of the MTC is to determine whether pupils can recall their times tables fluently, which is essential for future success in mathematics.
- Schools must administer the MTC to all eligible year 4 pupils in a two week period beginning on Monday 2nd June
- Your child's score is shared with you as part of their end of year report



Maths Mastery

Achievable for all

Deep and sustainable learning

The ability to build on something that has already been sufficiently mastered

The ability to reason about a concept and make connections



Horn Park approach

YEAR	First half term	Second half term	Third half term	Fourth half term	Fifth half term	Sixth half term
Year 1	Experience of counting in 1s, 2s, 5, 10s					
Year 2	1×	(1×) 2×	5×	(5×) 10×	0× and revision	revision
Year 3	(2×) 4 ×	(4×) 8 ×	3×	(3×) 6×	(6×) 12×	revision
Year 4	9×	7×	11×	Squares	revision	Test: June

Why a focus one TT per half term?

Plasticity of the brain; neuroscientists tell us it takes approximately **8 weeks of repetition to make a new neural pathway** - making this 'go to' automated thinking!

Then continued practice makes this stronger

Week	Content	When
Week 1	Multiplicative reasoning with unitising	Autumn 1
Week 2	Connecting unitising to doubles	
Week 3	Doubling two-digit numbers (brief link to multiples of 4 through doubling the double)	
Week 4	Connections between the 5- and 10-times tables	
Week 5	CMF for square numbers	
Week 6	12-times table	Autumn 2
Week 7	12-times table	
Week 8	9-times table	
Week 9	Identify 36 CMF	
Week 10	Recall facts that are not in the CMF	
Week 11	5x9 and 3x4 (GfG)	Spring 1
Week 12	3x9 and 7x8 (GfG)	
Week 13	5x7 and 4x8 (GfG)	
Week 14	3x7 and 6x7 (GfG)	
Week 15	Practice and consolidation	
Week 16	3x8 and 4x6 (GfG)	Spring 2
Week 17	6x8 and 3x6 (GfG)	
Week 18	6x9 and 5x6 (GfG)	
Week 19	7x9 and 5x8 (GfG)	
Week 20	Practice and consolidation	
Week 21	8x9 and 3x5 (GfG)	Summer 1
Week 22	4x9 and 4x5 (GfG)	
Week 23	4x7 (GfG)	
Week 24	Practice for MTC	
Week 25	Practice for MTC	
Week 26	Practice for MTC	Summer 2
Week 27	Missing factors & unitised counters maths stories	
Week 28	Nearest multiples & relationship between \times & \div	
Week 29	Missing factors and quotients	
Week 30	Multiplication facts & corresponding division facts	

Mastering number in Y4

Core multiplication facts

2 2 = 4								
2 3 = 6	3 3 = 9							
2 4 = 8	3 4 = 12	4 4 = 16						
2 5 = 10	3 5 = 15	4 5 = 20	5 5 = 25					
2 6 = 12	3 6 = 18	4 6 = 24	5 6 = 30	6 6 = 36				
2 7 = 14	3 7 = 21	4 7 = 28	5 7 = 35	6 7 = 42	7 7 = 49			
2 8 = 16	3 8 = 24	4 8 = 32	5 8 = 40	6 8 = 48	7 8 = 56	8 8 = 64		
2 9 = 18	3 9 = 27	4 9 = 36	5 9 = 45	6 9 = 54	7 9 = 63	8 9 = 72	9 9 = 81	

CMF – CORE
MULTIPLICATION
FACTS

'Being fluent'

Quick and accurate recall of all multiplication facts up to 12×12 is important in order to free working memory, being able to make decisions about when to use this knowledge to solve certain problems.

However, if a child only knows these facts as an unconnected collection of memorised phrases and does not know:

- That 8×6 is the same as 6×8 or twice 4×6 or 12 less than 10×8 ; or
- Does not know the connection between 6×8 and 16×8 or 6×80 or 0.6×8 ; or
- When faced with a problem of finding how many books are in a bookcase with 8 shelves and 6 books on each shelf, does not know what mathematics to use

... then they have not obtained fluency of mastery

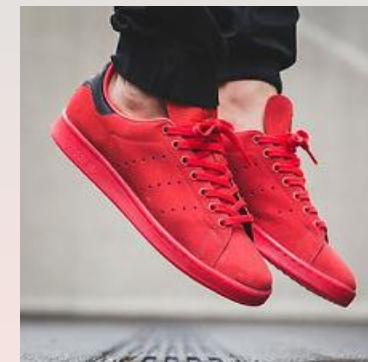


Approaches that can
be replicated at
home

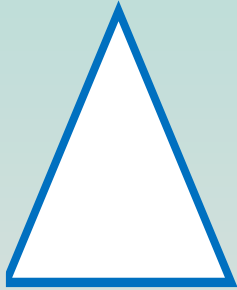
making clear
conceptual links to the
real world

what comes in?

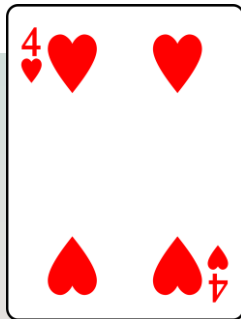
What comes in 2s?





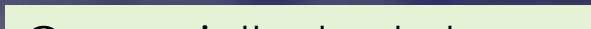
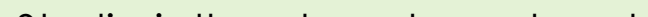
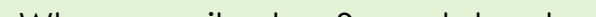
What comes in 3s?



What comes in 4s?



Times Table rockstars

 Jamming gives players the choice over the tables they practise and whether to include multiplication, division or both. It's perfect for building up confidence on the tables of your choice, at your own pace Gigs give pupils and their teachers a way to check overall performance each month. Once played, it becomes unavailable until the 1st of the next month. Garage is the best place for mastering individual tables as it carefully personalises the questions for each player in every game. Their algorithm adapts the questions every game for every player Studio is the place to go to set a Studio Speed and get a Rock Status. The Studio Speed is the average of their most recent 10 Studio games (so until they've played 10 times there will be no Studio Speed). All tables up to 12×12  When pupils play Soundcheck, they are asked 25 questions, each with a 6-second time limit. The questions are multiplication only and evenly weighted in terms of difficulty each time they play - exactly the same as the UK government's 'Multiplication Tables Check'. All tables up to 12×12

Times Table rockstars



FESTIVAL

Race the world



ARENA

Race your class



ROCKSLAM

Challenge someone

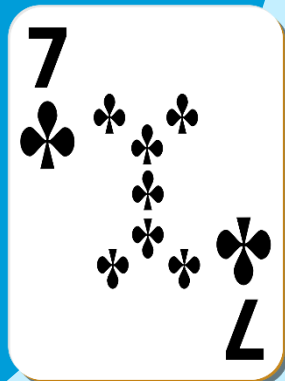
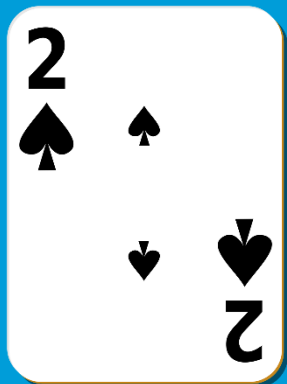
10	10 × 10	10 × 2	10 × 5	10 × 3	10 × 4	10 × 8	10 × 6	10 × 7	10 × 9	10 × 11	10 × 12
2	2 × 10	2 × 2	2 × 5	2 × 3	2 × 4	2 × 8	2 × 6	2 × 7	2 × 9	2 × 11	2 × 12
5	5 × 10	5 × 2	5 × 5	5 × 3	5 × 4	5 × 8	5 × 6	5 × 7	5 × 9	5 × 11	5 × 12
3	3 × 10	3 × 2	3 × 5	3 × 3	3 × 4	3 × 8	3 × 6	3 × 7	3 × 9	3 × 11	3 × 12
4	4 × 10	4 × 2	4 × 5	4 × 3	4 × 4	4 × 8	4 × 6	4 × 7	4 × 9	4 × 11	4 × 12
8	8 × 10	8 × 2	8 × 5	8 × 3	8 × 4	8 × 8	8 × 6	8 × 7	8 × 9	8 × 11	8 × 12
6	6 × 10	6 × 2	6 × 5	6 × 3	6 × 4	6 × 8	6 × 6	6 × 7	6 × 9	6 × 11	6 × 12
7	7 × 10	7 × 2	7 × 5	7 × 3	7 × 4	7 × 8	7 × 6	7 × 7	7 × 9	7 × 11	7 × 12
9	9 × 10	9 × 2	9 × 5	9 × 3	9 × 4	9 × 8	9 × 6	9 × 7	9 × 9	9 × 11	9 × 12
11	11 × 10	11 × 2	11 × 5	11 × 3	11 × 4	11 × 8	11 × 6	11 × 7	11 × 9	11 × 11	11 × 12
12	12 × 10	12 × 2	12 × 5	12 × 3	12 × 4	12 × 8	12 × 6	12 × 7	12 × 9	12 × 11	12 × 12

Make it fun!

Times table rockstars is part of weekly homework,
but there are so many other ways to develop
fluency

Card game

Who can win the most cards?



In pairs.

Split cards in half, each person hold their cards face down.

Take turns to turn your top card over.

Once 2 cards are on the table you need to times them together.

Whoever says the answer fastest wins both cards

Ace = 1

All pictures cards = 10

$$2 \times 7 = 14$$



Danger number!

Take it in turns to chant -
You can say 1, 2 or 3 numbers
Whoever says the **danger number** is out!

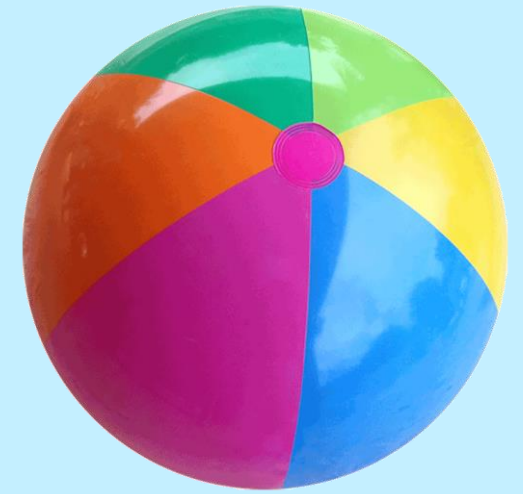
0	
4	28
8	32
12	36
16	40
20	44
24	48



Beach ball

Game 1

- Catch the ball
- Say the next times table
- Throw the ball to someone else



Game 2

- Catch the ball
- Ask a question... what is ___ x 2?
- Throw the ball to someone else to answer

Game 3

- Knock the ball between you
- Every time someone touches the ball, they say the next number in the sequence



Any
questions?

