PARENT WORKSHOP: TIMES TABLES

Thursday 15th 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 3

Pupils will:

- recall the products for 7 x 7 and 2 x 9
- explore why 4 x 8 equals 32
- practise recalling the product for 4 x 8 using the oral pattern and gestures.

Focus facts of the week

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

$5 \times 7 = 35$

$4 \times 8 = 32$

GOING FOR GOLD

Focus fact

$4 \times 8 = 32$

$8 \times 4 = 32$

Focus fact

Let's connect 4×8 to another fact.

Fin

4 × 8 must be equal to 40 subtract 8!

I know that 5 × 8 = 40. I can use that to help me think about 4 × 8.

I know that 4 × 8 is 8 less than 5 × 8.

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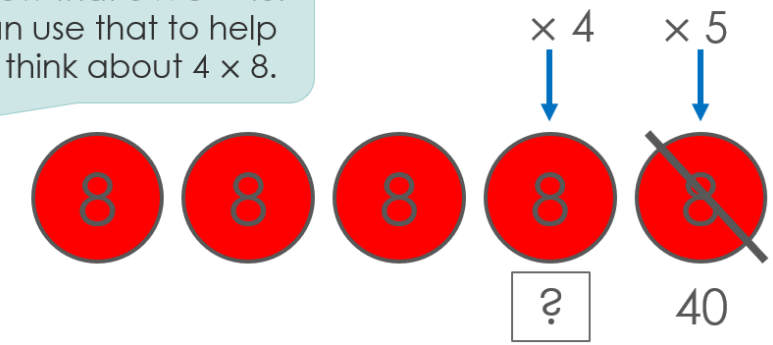


Cal thinks about 4×8 in a different way.

When I times by 4, I can double and double again.

So, I can double 8, that's 16...

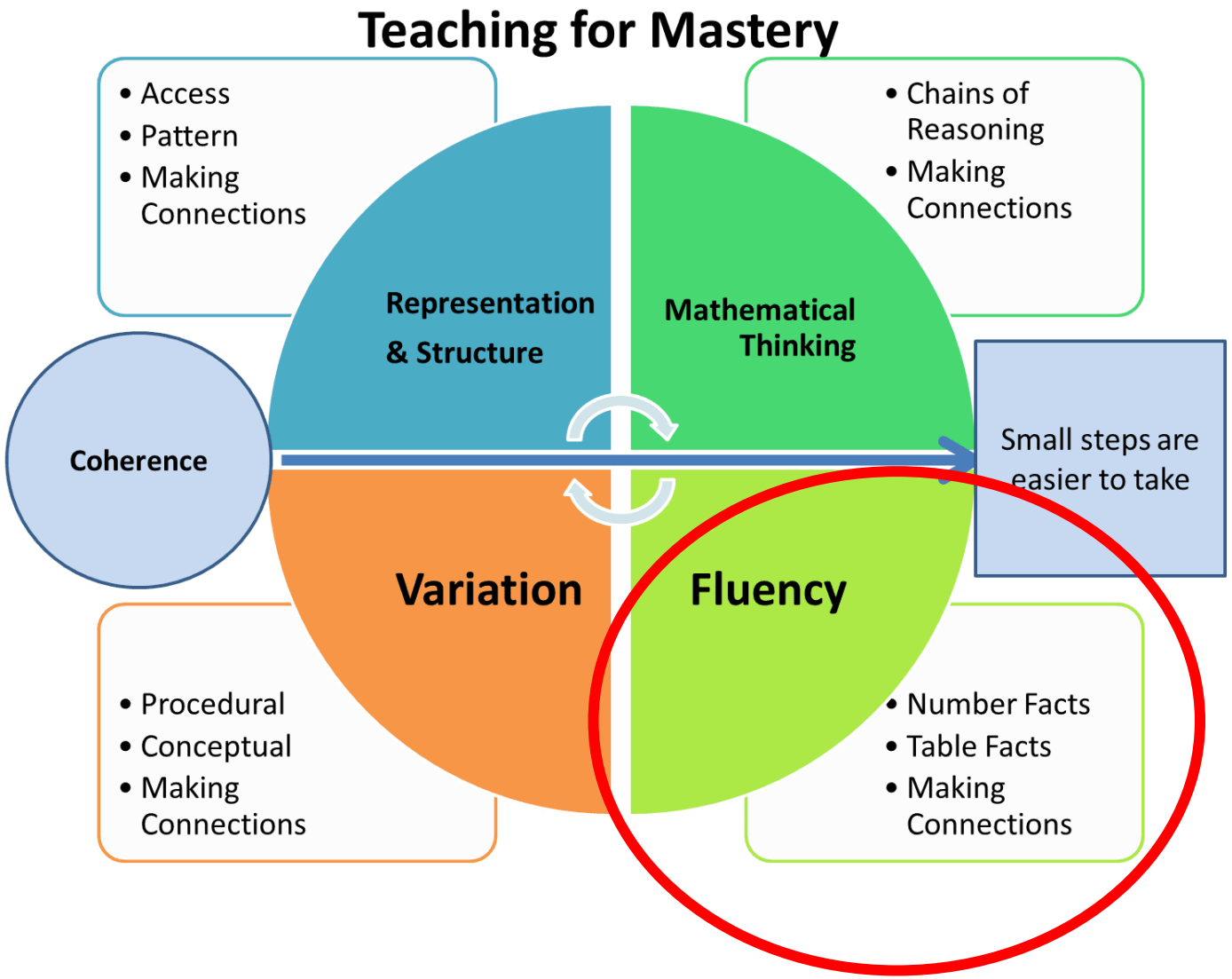
8 → doubled → 16 → doubled → 32

$4 \times 8 = 32$

...and double 16 is 32. So, 4 × 8 must be 32.

MTC check

- The multiplication tables check (MTC) is statutory for all year 4 pupils
- It is a 25 question, timed test 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 1st 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)	
Week 12	3x9 and 7x8 (GfG)	Spring 1
Week 13	5x7 and 4x8 (GfG)	
Week 14	3x7 and 6x7 (GfG)	
Week 15	Practice and consolidation	
Week 16	3x8 and 4x6 (GfG)	
Week 17	6x8 and 3x6 (GfG)	Spring 2
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	
Week 27	Missing factors & unitised counters maths stories	Summer 2
Week 28	Nearest multiples & relationship between x & ÷	
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 x 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 x 6 is the same as 6 x 8 or twice 4 x6 or 12 less than 10 x 8; or
- Does not know the connection between 6 x 8 and 16 x 8 or 6 x 80 or 0.6 x 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

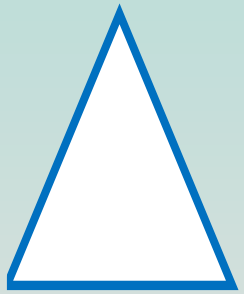
Approaches that can be replicated at home

making clear conceptual links to the real world

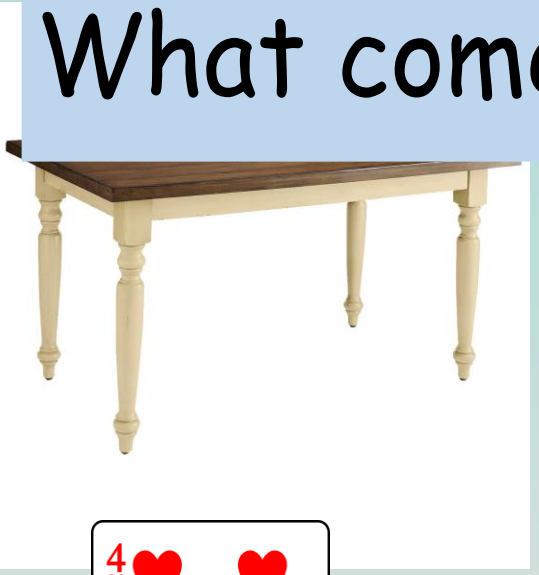
what comes in …..?

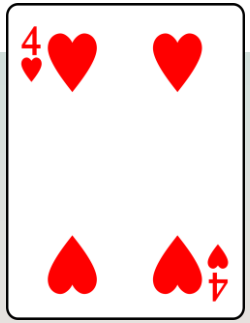
What comes in 2s?

What comes in 3s?

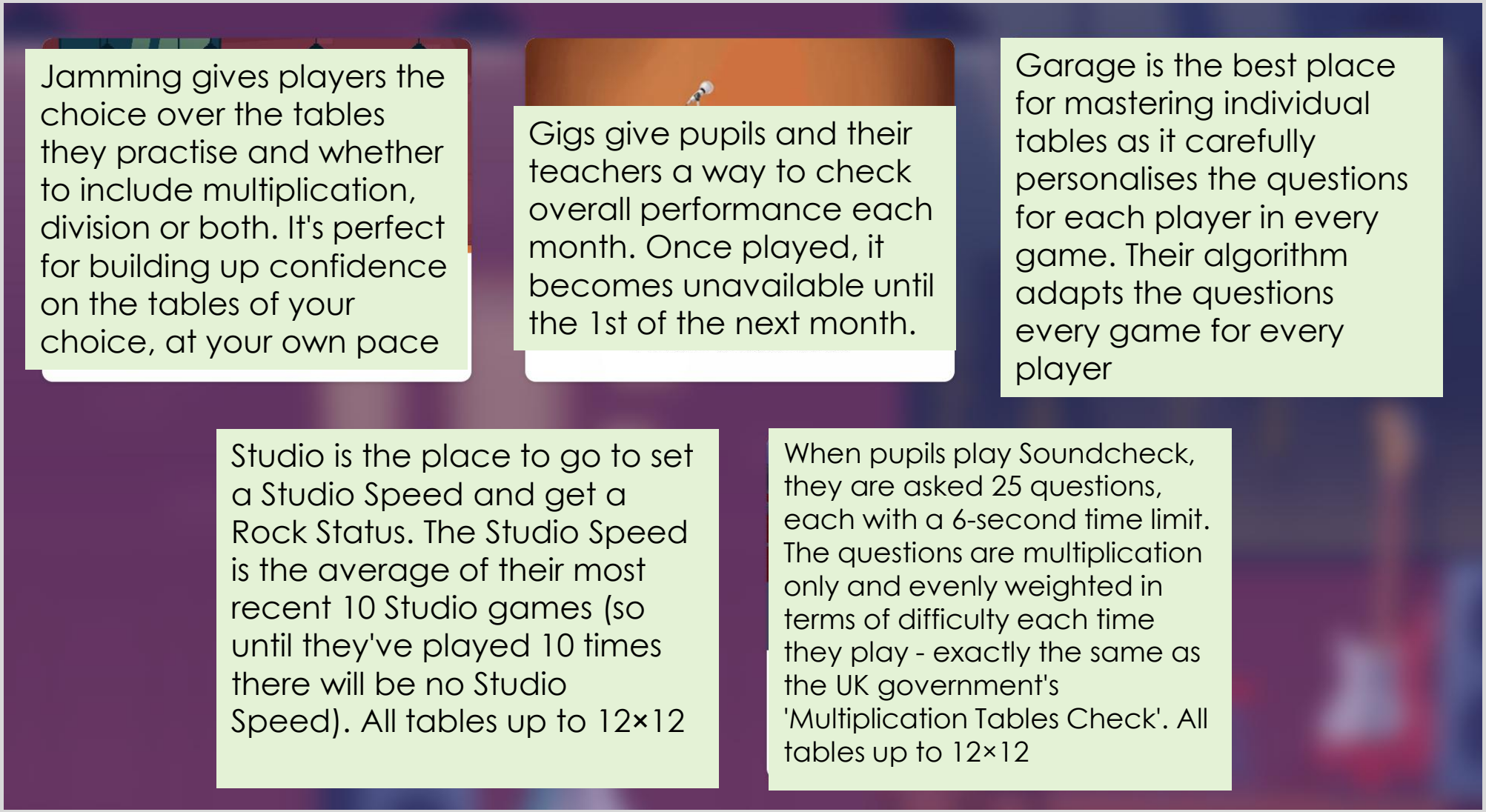


What comes in 4s?





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

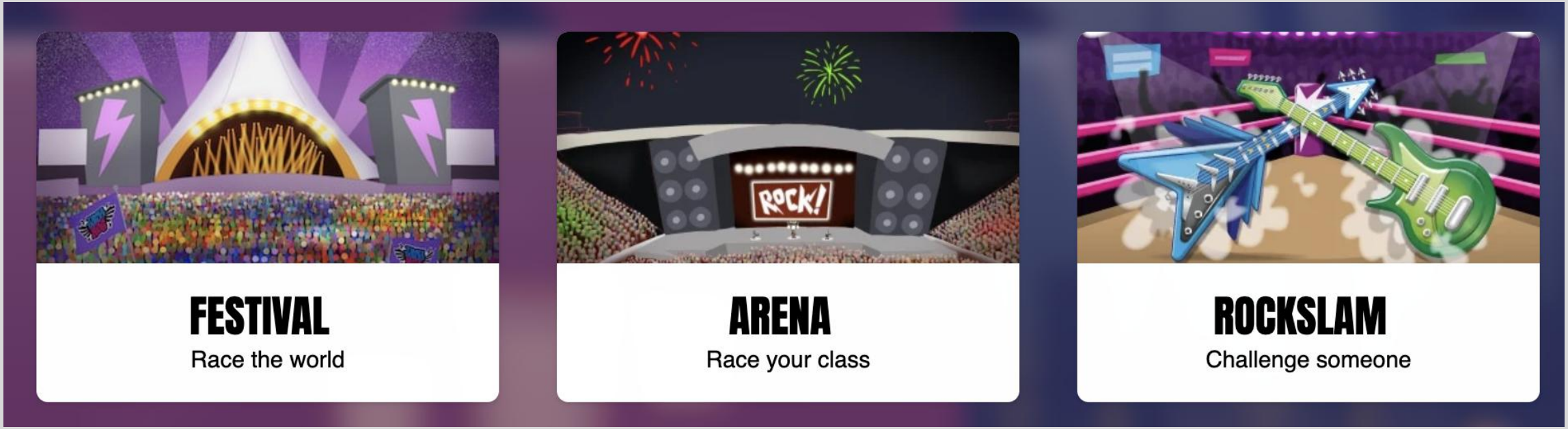
Gigs give pupils and their teachers a way to check overall performance each month. Once played, it becomes unavailable until the 1st of the next month.

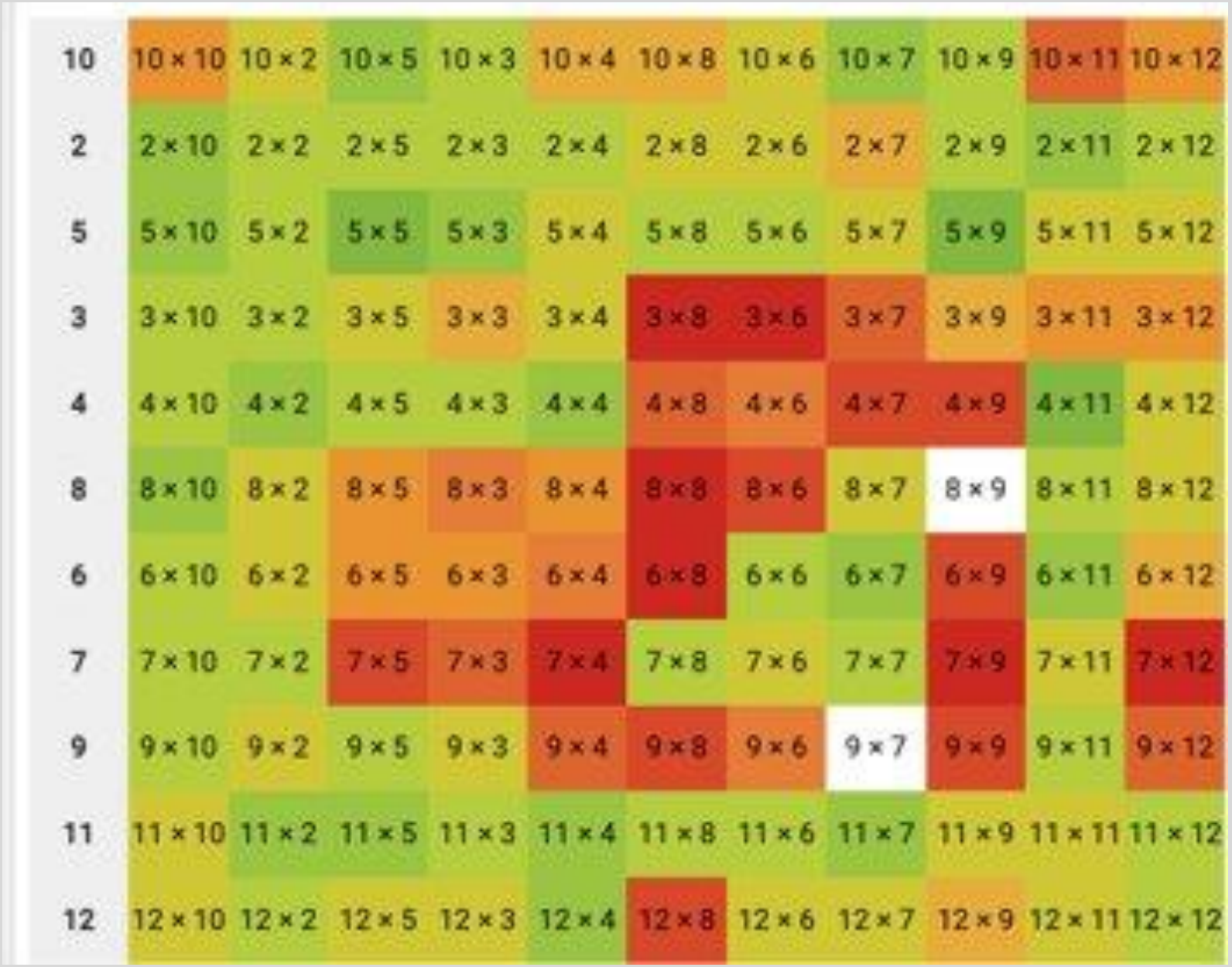
Garage is the best place for mastering individual tables as it carefully personalises the questions for each player in every game. Their algorithm adapts the questions every game for every player

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




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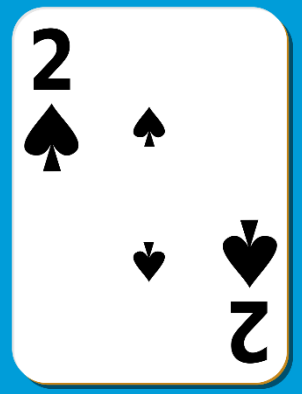
12 12×10 12×2 12×5 12×3 12×4 12×8 12×6 12×7 12×9 12×11 12×12

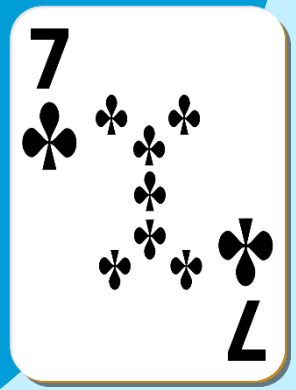
Make it fun!

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
8
12
16
20
24
28
32
36
40
44
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?