

Year 4 Multiplication Tables Check 2024 Presentation for Parents, Carers & Guardians

Year 4 MTC

- The multiplication tables check is delivered as an online assessment; there are multiple, equivalent forms and each pupil is randomly assigned one.
- Each form consists of 25 questions worth one mark each and pupils have six seconds to enter a response to the question.





Why?

Avoiding cognitive overload!



Making connections

Making connections

- 10% of £400
- $\pounds 400 \div 10 = \pounds 40$
- 3 x £40 = £120
- Halving
- 5% of £400 = £20
- $\pm 120 + \pm 20 = \pm 140$

Jack has £400 He spends 35% of his money on a new bike. How much does Jack spend on his new bike?

Calculate the weight of one block.

How have we done at Evelyn Street?

- In 2021/2022 children scored an average of 20.89 out of a possible 25
- In 2022/2023 children scored an average of 23.16
- The national average was 20.17 out of 25
- 43% of the children in Year 4 at Evelyn Street scored the top score of 25. The national average was 31%

How would we do? Time for a quick quiz...

Important information about multiplication tables check

- The MTC determines if Year 4 children can fluently recall their multiplication tables.
- They are designed to help schools identify which children require more support to learn their times tables.
- There is no 'pass' rate or threshold which means that, unlike the Phonics Screening Check, children will not be expected to re-sit the check.

When the check will take place

- Schools must administer the MTC to all eligible year 4 pupils from Monday 3 June over a 2 week period
- There is no set day to administer the check and children are not expected to take the check at the same time.

How the check is carried out

- The check will be fully digital we complete on ipads as this is how they are used to accessing it in school
- Usually, the check will take less than 5 minutes for each child.
- The children will have 6 seconds from the time the question appears to input their answer.
- There will be a total of 25 questions with a 3 second pause in-between questions.
- There will be 3 practice questions before the check begins.

<u>Specific</u> arrangements for the check

Some children will be eligible for specific arrangements:

- Colour contrast
- Font size adjustment
- 'Next' button (alternative to 3-second pause)
- Removing on-screen number pad
- An adult to input answers
- Audio version
- Audible time alert.

National curriculum assessments

Key stage 2

There is an emphasis on the 6, 7, 8, 9 and 12 multiplication tables because these have been determined to be the most difficult multiplication tables.

Multiplication tables check assessment framework

From academic year 2021/2022

For Test Developers

Multiplication Table	Minimum number of items in each form	Maximum number of items in each form
1	Not applicable	Not applicable
2	0	2
3	1	3
4	1	3
5	1	3
6	2	4
7	2	4
8	2	4
9	2	4
10	0	2
11	1	3
12	2	4

Time to look at research

Time to look at research...

Why is automaticity with maths facts important?

...automaticity comes by means of direct retrieval, rather than following a procedure

... frees up cognitive resources and attention

How fast is fast enough to be automatic?

...consider facts to be automatic when a response comes in two or three seconds.

Time to look at research...

What type of practice effectively leads to automaticity?

Not too much to be learnt

Teaching memory strategies

Developing strong associations between small sets of facts

Recalling vs deriving

How we teach multiplication facts

Term	Year 1 Overview								
Autumn	Number: Place Value (within Number 10)			Number: Addition and Subtraction (within 10)			Geometry: Shape	Number: Place Value (within 20)	
	Multiplication tables - Count in 2, 5, 10								
Spring	Number: Addition and Subtraction (within 20)		Number: Place Value (within 50) includes counting in 2s and 5sN			Measurement: Length and Height		Measurement: Mass and Volume	
			Multiplia	cation tables - Co	ount in 5,	10 and re	ecite 2		
Summer	Number: Multiplication and Division (reinforce multiples of 2, 5 and 10 to be included)	Geometry: Position & Direction	Number: Place Value (within 100)		Measures: Money	Measurement: Time			
	Multiplication tables - Recite 5, 10 and multiply 2 Fluency – Addition and subtraction within 10								

Term	Year 2 Overview									
Autumn	Number: Place Value	Number: Place Value Number: Addition and Subtraction Measurement: money				Number: <u>Multiplication</u> and division				
	Multiplication tables - Recite 5, 10 and multiply 2 and count in 4s 2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice.									
Spring	Number: Multiplication and Division		Statistics		etry: Properties of Shape	Number: Fractions				
	Multiplication tables - Multiply 5, 10 and divide 2 and count in 4s 2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice.									
Summer	Measurement: Time Position Direction		Problem solving	n Measurement: Length & g Height		Measurement: Mass, Capacity and Temperature				
		Multiplication Fluency –	n tables - Divide 2, Addition and subt	5, 10 and raction ac	recite in 4s ross 10					

Term		Year 3 overview							
Autumn	Number: Place Value	Number:Number:Number:Place ValueAddition and SubtractionMultiplication and Div							
	• [anguage of 25, 50, 75, 100 mus • Yr 3= Multiplication tables	t be needs to be a fluent spoken lang - Divide 2, 5, 10 and recite in 4, 8, cou	uage pattern Int 3, 11					
Spring	Number: Multiplication and Division	Measurement: Length and Perimeter	Measures: Mass and Capacity						
		Yr 3= Multiplication tables - Di	vide 2, 5, 10 and multiply 4, 8, recite .	3, 11					
Summer	Measure: Money	Measurement: Time	Statistics	Geometry: Properties of shape					
		Yr 3= Multiplication tables -	Divide 2, 4, 5, 10 and multiply 8, 3, 1	1					

Term	Year 4 overview						
Autumn	Number: Place Value	N Addition a	Number: Multiplication and Division				
Spring	• L • Yr 4 Number: Multiplication and Division	anguage of 25, 50, 75, 100 mus 4 = Multiplication tables - Divid Measurement: Length, Perimeter and area	e 2, 4, 5, 10, 11 and multiply 3, 8 and 1 Number: Fractions	uage pattern recite 6, 7, 9, 12 Measures: Mass and Capacity			

Number: Decimals Measure: Money	Measurement: Time	Statistics	Geometry: Properties of shape Position and direction
------------------------------------	----------------------	------------	--

Yr 4 = Multiplication tables - Divide all to 12 x 12

Summer

Multiplication and division facts

The full set of multiplication calculations that pupils need to be able to solve by automatic recall are shown in the table below. Pupils must also have automatic recall of the corresponding division facts.

1 × 1	1 × 2	1 × 3	1 × 4	1 × 5	1×6	1 × 7	1 × 8	1×9	1 × 10	1 × 11	1 × 12
2 × 1	2 × 2	2 × 3	2 × 4	2 × 5	2×6	2 × 7	2 × 8	2 × 9	2 × 10	2 × 11	2 × 12
3 × 1	3 × 2	3 × 3	3 × 4	3 × 5	3×6	3 × 7	3 × 8	3 × 9	3 × 10	3 × 11	3 × 12
4 × 1	4 × 2	4 × 3	4 × 4	4 × 5	4 × 6	4 × 7	4 × 8	4 × 9	4 × 10	4 × 11	4 × 12
5 × 1	5 × 2	5×3	5×4	5 × 5	5×6	5 × 7	5 × 8	5 × 9	5 × 10	5 × 11	5 × 12
6 × 1	6 × 2	6 × 3	6 × 4	6 × 5	6×6	6 × 7	6 × 8	6 × 9	6 × 10	6 × 11	6 × 12
7 × 1	7 × 2	7 × 3	7 × 4	7×5	7×6	7×7	7 × 8	7×9	7 × 10	7 × 11	7 × 12
8 × 1	8 × 2	8 × 3	8 × 4	8 × 5	8×6	8 × 7	8 × 8	8×9	8 × 10	8 × 11	8 × 12
9 × 1	9×2	9×3	9×4	9×5	9×6	9×7	9×8	9×9	9 × 10	9 × 11	9 × 12
10 × 1	10 × 2	10 × 3	10 × 4	10 × 5	10 × 6	10 × 7	10 × 8	10 × 9	10 × 10	10 × 11	10 × 12
11 × 1	11 × 2	11 × 3	11 × 4	11 × 5	11 × 6	11 × 7	11 × 8	11 × 9	11 × 10	11 × 11	11 × 12
12 × 1	12 × 2	12 × 3	12 × 4	12 × 5	12 × 6	12 × 7	12 × 8	12 × 9	12 × 10	12 × 11	12 × 12

Fluency in the 36 highlighted facts should be prioritised. Together with an understanding of commutativity will enable pupils to multiply any pairs of number in formal written methods of multiplication.

Mathematics guidance: key stage 1 and 2 Non-statutory guidance for the national curriculum in England page 332

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

- We can discount the 1 times table facts, because generally children know these.
- Because each product is repeated we can halve the number of facts we need to learn.
 We now have 36 as shown in this grid
- Once children can recall these, and apply them to commutative calculations, for example recognise that 5 x 7 has the same product as 7 x 5, they have learnt the essential facts for written multiplication and division.
- Children who have not learnt all times table facts before the MTC should prioritise these in year 5.

Learning Multiplication Facts The research

Multiplicative facts are stored in our verbal memory; saying (and hearing) the sound pattern of the phrase (e.g. seven threes are twenty one) is important.

A suggested strategy: Principles for Learning Multiplication Facts

Learn as a memorised phrase by repeating sound pattern out loud.

Don't try to derive. If you don't know – copy down then learn later.

Say the greater number first.

A suggested strategy: Principles for Learning Multiplication Facts

Learn each fact one way round only, then get confident at switching factors.

A suggested strategy: Principles for Learning Multiplication Facts

pattern is key

How Can We Help Children to Learn Key Number Facts?

- Frequent practice
- Multi-sensory approach
- Visual prompts
- Over-learning
- Build on known number facts
- Engage in practical activities and concrete resources
- Active learning
- Motivate, encourage and enthuse
- Make it real
- Make it fun!

Grab Three

Multiplication facts

- Place three things on the table
- Player 1 rolls two 1-6 dice and calculates the product.
- Player 2 repeats
- The player with the highest score takes a 'thing'.
- Continue playing and taking a 'thing', a player can take a 'thing' from the other player.
- The first player to have all three 'things' wins.

8 rolls to 100

Multiplication facts

Player A	Player B

- Take turns to roll 2 x 1-6 die
- Multiply the two numbers that come up and record the product.
- Repeat 8 times.
- After 8 rounds each player adds up their products and finds their total.
- The player to get over 100 is the winner.

Multiplication War

Multiplication facts

- Shuffle playing cards/digit cars
- Divide the set between two players
- Players place their cards face down in a pile.
- Players turn over the top card at the same time.
- The first player to say the product of the two cards facing up, keeps both cards
- The player with the most cards wins

Any questions/queries...

