Year 4 Multiplication Tables Check (MTC)

Important information about multiplication tables check (MTC)

- 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.

- The Department for Education (DfE) will create a report about the overall results across all schools in England, not individual schools.

When the check will take place

- There will be a 3 week window from Monday 6th June to Friday 24th June 2022 for schools to administer the check.

- There is no set day to administer the check and children are not expected to take the check at the same time.

- All eligible Year 4 children in England will be required to take the check.

How the check is carried out

- The check will be fully digital.

- Answers will be entered using a keyboard, by pressing digits using a mouse or using an on-screen number pad.

- 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.

The check questions

- Each child will be randomly assigned a set of questions

- There will only be multiplication questions in the check, not division facts.

- The 6, 7, 8, 9 and 12 times tables are more likely to be asked.

- Reversal of questions (e.g. 8 x 6 and 6 x 8) will not be asked in the same check.

- Children will not see their individual results when they complete the check.

More information about the questions

The Standards and Testing Agency (STA) state that they are classifying the multiplication tables by the first number in the question. For example, 8 x 3 would fall within the 8 times table.

5.2.1 Table 1 – Multiplication table limits in the MTC

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

A focus on

Times Tables

Times tables

Year 1:
● count in multiples of twos, fives and tens
● solve simple multiplication and division using objects, pictures and arrays with support

Year 2:
● count in steps of 2, 3, 5 and 10
● recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables

Year 3:
● count from 0 in multiples of 4, 8, 50 and 100
● recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

Year 4:
● count in multiples of 6, 7, 9, 25 and 1000
● recall multiplication and division facts for multiplication tables up to 12 × 12

What is a times table / multiplication table?

Multiplication table

A list of multiples of a particular number, typically from 1 to 12.

Oxford English Dictionary online

1 x 3 = 3
2 x 3 = 6
3 x 3 = 9
4 x 3 = 12
5 x 3 = 15
6 x 3 = 18

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Can you see this one group of three?
This is showing

This is three groups of three?
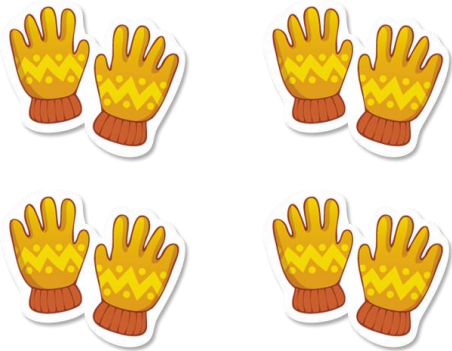This is showing 3 x 3 = 9

Counting and looking for patterns.

Example: Counting in 2s
2, 4, 6, 8, 10…

- Ensure children have a strong understanding of counting in groups first.
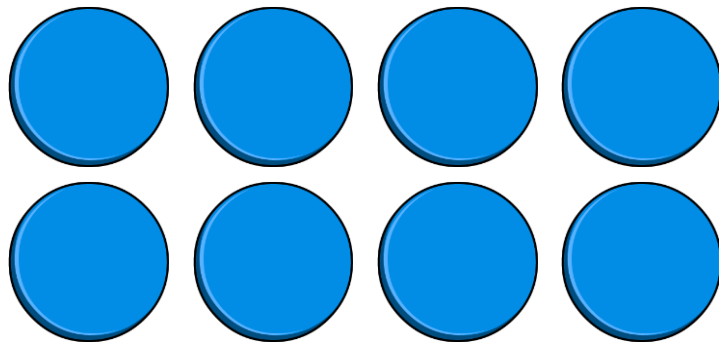- When children are secure with counting, they can then look for patterns.

Repeated addition

Knowing that 2 x 4 is the same as 2 + 2 + 2 + 2

2 + 2 + 2 + 2 = ?

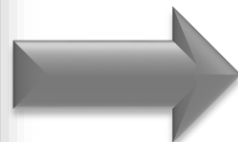2 x 4 = ?

Learning a times table

1 x 3 = 3

1 group of 3 is worth 3
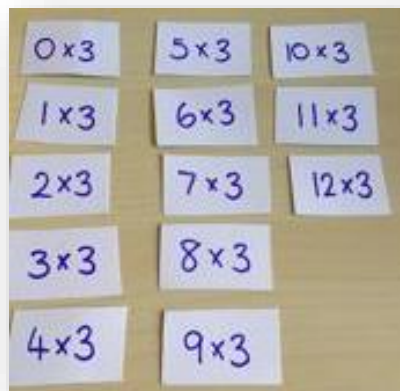

4 x 3 = 12

4 groups of 3 is worth 12

1, 2, **3**,
4, 5, **6**,
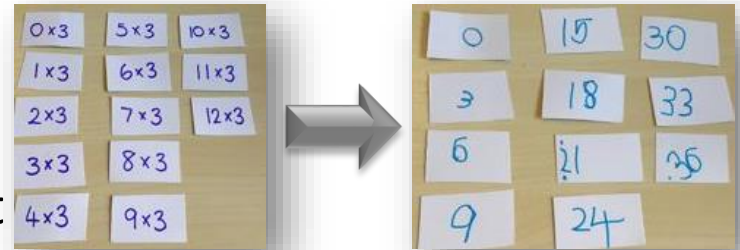7, 8, **9**,
10, 11, **12**…

Learning a times table

1 x 3 = 3
2 x 3 = 6
3 x 3 = 9
4 x 3 = 12
5 x 3 = 15
6 x 3 = 18
7 x 3 = 21
8 x 3 = 24
9 x 3 = 27
10 x 3 = 30
11 x 3 = 33
12 x 3 = 36

Games with the cards

On your own or with an adult…

- In order first, with the list still visible
- In order, without the list
- Starting with the product, give the fact
- Out of order – choose 'easiest' first
- Out of order – less choice of order
- Speed round

Multiplication and counting

Speaking Frame - Counting in Multiples

We are using _____ to count in multiples of [   ]

The [   ] multiple of [   ] is [   ]

This could also be [   ] + [   ] + [   ] + [   ] ...

[   ] groups of [   ] is [   ]

This is also [   ] x [   ] =

Multiplication and counting

Speaking Frame - Counting in Multiples

We are using _____ to count in multiples of [   ]

The [   ] multiple of [   ] is [   ]

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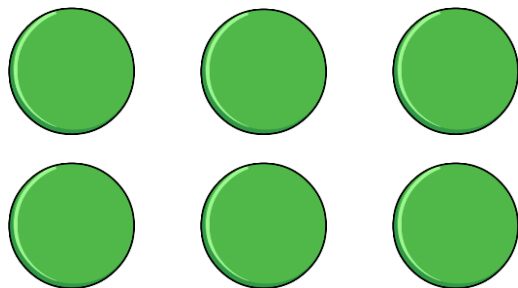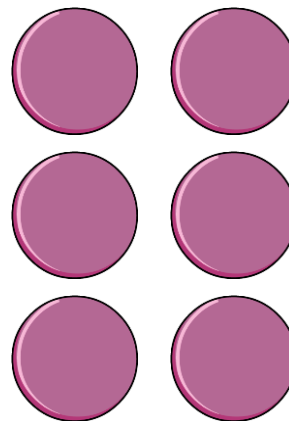
[   ] groups of [   ] is [   ]

This is also [   ] x [   ] =

Multiplication is commutative

3 x 2 is the same as 2 x 3

Children need to understand that multiplication can be completed in any order to produce the same answer. Sometimes this link needs to be made explicit.
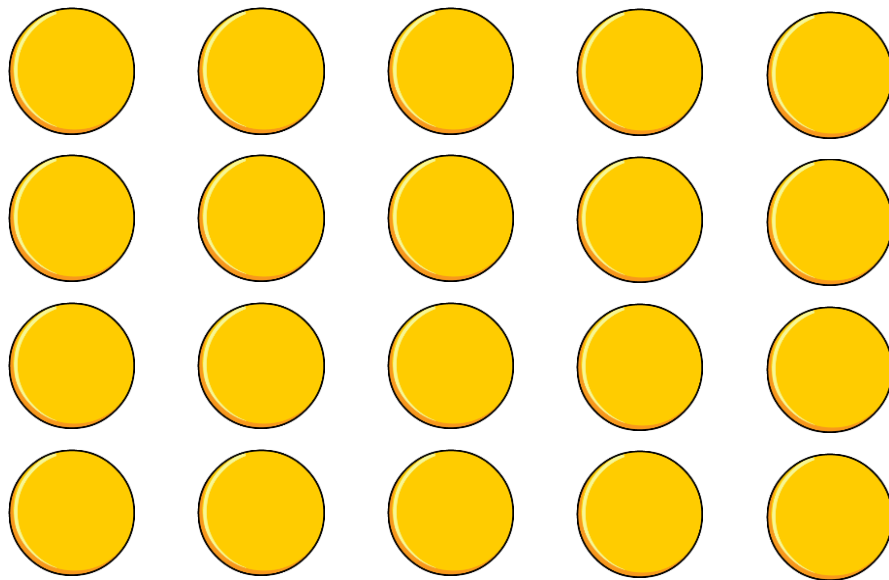
3 lots of 2 = 6

2 lots of 3 = 6

Multiplication is the inverse of division

20 ÷ 5 = 4 can be worked out because 5 x 4 = 20
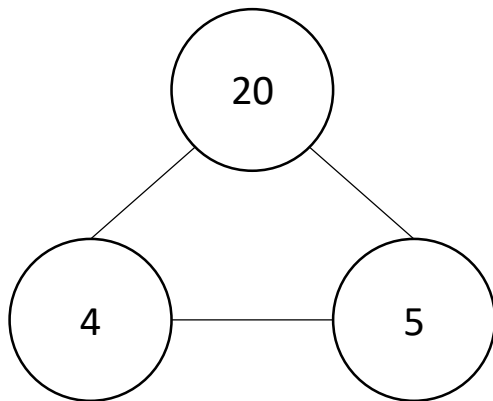
Using pictorial representations (such as arrays) is useful here for children to see the link between multiplication and division.

Number families

$$4 \times 5 = 20, 5 \times 4 = 20, 20 \div 5 = 4, 20 \div 4 = 5$$

Due to their commutative understanding, children should also be able to see whole number families. For many children this will need to be pointed out and discussed.

```
        20
       /  \
      4 —— 5
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Ways to support times table knowledge

- Count and look for patterns.
- Understand that multiplication is repeated addition.
- Remember that multiplication is commutative.
- Remember that multiplication is the inverse of division.
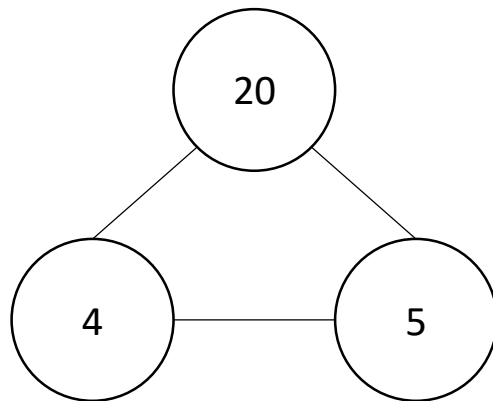- Recall and utilise number families.

Use different representations to represent multiplication, such as:
- Concrete manipulatives suck as multilink cubes or counters.
- Create pictorial representations such as arrays.

Number families

$$4 \times 5 = 20, 5 \times 4 = 20, 20 \div 5 = 4, 20 \div 4 = 5$$

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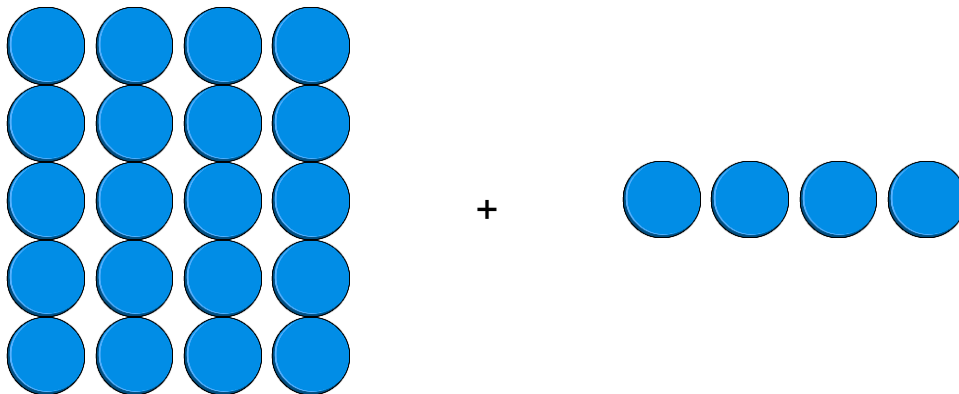
Using known facts

4 x 6 = ?
I know 4 x 5 = 20
Therefore, 20 + 4 = 24

By using known facts from 'easier' times tables, children should be able to find answers with increasing speed.

Three in a Row

x0	x1	x2	x3	x4	x5	x6	x7	x8	x9

Decide which multiplication table you are using.

You need a different coloured pencil each and a set of 0-9 cards

Multiplication Duel

You will need:

• Playing cards - 10s removed, Ace is 1

How to play:

• Each player turns over 2 cards. Each player says their calculation and answer out loud.

• Player with the highest answer keeps the cards.

• Winner is the person with the most correct answers and has the most cards.

This game rehearses:

• Times tables recall

Adaptations:

• All number facts for a pair of cards.

• Use a 0-9 dice

• Both players turn over 1 card each and the quickest to say the times table and the answer gets to keep the cards.

Year 3 Maths Everywhere – Times Tables Hopscotch

Draw a giant hopscotch grid outside and use a stone to throw, or draw a grid on paper and use a counter or a pasta shape to flick onto the grid.

Start with the numbers 0 to 12.
Choose a times table for the squares (like the picture that shows the 4 times table).
Jump or use your fingers to get to where the number that your counter/stone has landed. Then you multiply that number in your chosen times table.
You say the times tables and the multiple it represents.

Change the numbers in the hopscotch to show the products and use division to say your answer (this picture shows how this could be done).
Play the game several times and practise the 2, 3, 4, 8 and 10 times tables.

2	4
10	
3	11
9	
12	7
1	
6	8
0	

6 X 4 = 24

There are 6 fours in 24

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

36 divided by 4 is 9

Herts for Learning

Year 4 Maths Everywhere – Array hunt

Go on a hunt, looking for arrays (rectangles of amounts, in columns and rows).

Here are some ideas including crayons and Lego® bricks. But also have a look for tiles and patterns on materials.

For each of the arrays you find, say which multiplication fact is represented.

There are ___ rows of _____.
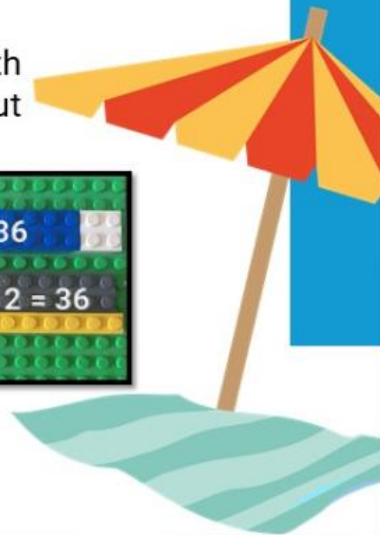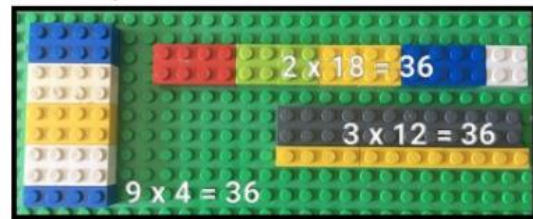*The product is _____.*

Can you find another array with the same product?

There are 6 rows of 6 studs.
The product is 36 studs.
6 x 6 = 36

If not, draw/build an array with a different number of rows but the same product.

2 x 18 = 36

3 x 12 = 36

9 x 4 = 36

Year 4 Maths Everywhere – Multiplication tables games

You will need a set of playing cards **or** a dice.
Decide on a multiplication table that you have begun learning and are beginning to remember the facts for.

Playing on your own or with a partner, roll the dice or choose a playing card.
If using the cards, Jack = 10, Queen = 11, King = 12.
If using the dice, roll it twice and add up the 2 numbers.
Now say the whole fact.

I'm working on learning my 6s.
I rolled a 5.
5 x 6 = 30
Extend to: I also know 6 x 5 = 30 and 30 ÷ 5 = 6 or 30 ÷ 6 = 5

Which facts do you know best and already remember quickly?

Which facts are you using counting or another strategy to work out?

Herts
for Learning

Online rehearsal

- Online tools to practise at home
- Year 4 times tables check – 25 questions up to 12x12, 6 second time limit
- Maths Frame (free)
- www.timestables.co.uk (free)
- TT Rockstars (school subscribes)

http://bit.ly/MTCGAME

How best to prepare your child for the check

- Remind them that the check should last no more than 5 minutes.

- If you want to go over times tables, make them fun.

- If you have any concerns, talk to your child's teacher.

- If your child has any concerns, encourage them to talk to a trusted adult (for example, yourself, their teacher).

- Practise using an online check website eg www.mathsframe.co.uk or www.timestables.co.uk or www.timestablesrockstars.co.uk - Sound Check replicates the MTC