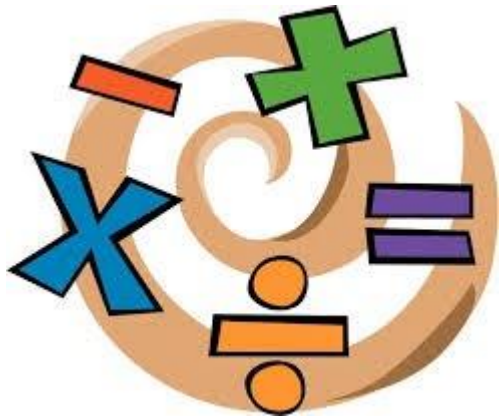


Multiplication and Division Maths Workshop



‘No matter what I do, their teacher keeps on saying they don’t know their times tables!’ - helping your child learn their times tables

What are times tables?

Can you write a definition on a post-it note?
Hang onto it until the end of the session!

Getting to the heart of multiplication...



Top Tip!

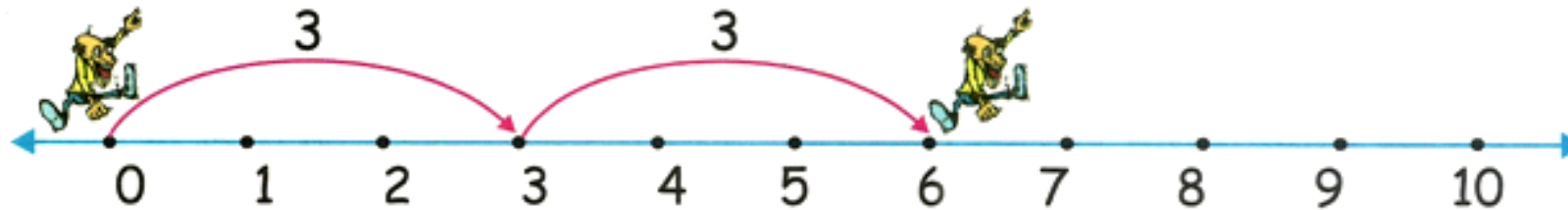
BBC Bitesize have amazing videos that explain things simply and in an engaging way!

Use a number line to solve these problems:

$$5 + 5 + 5$$

$$7 + 7$$

$$8 + 8 + 8 + 8$$



Is adding $5 + 5 + 5$ the most efficient way to arrive at 15?

$$5 + 5 + 5 = 15$$

This could also be written as:

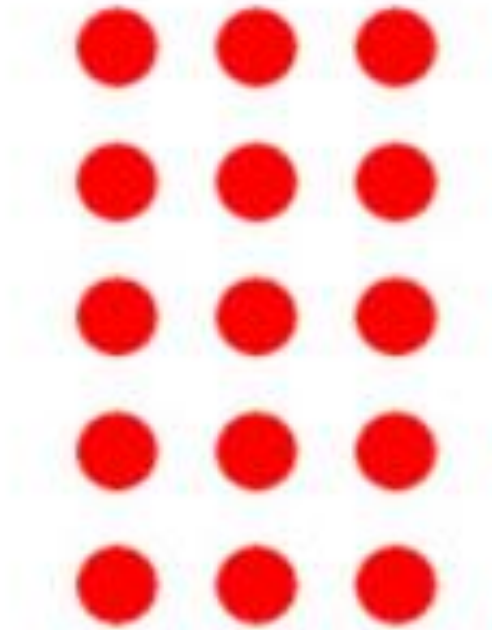
$$3 \times 5 = 15$$

Or 3 lots of 5 is equal to 15

But what does 3×5 look like?

What does 3×5 look like?

$$3 \times 5$$



$$5 \times 3$$



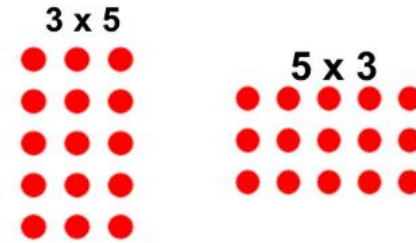
Can you represent these multiplication number sentences with arrays?

$$4 \times 5$$

$$2 \times 7$$

$$3 \times 8$$

$$4 \times 4$$



Challenge: Can you reverse the numbers in the number sentence? How will this change your array? Does it always change your array?

We can understand what it is, but
how can I get my child
engaged with times tables?

top marks times tables



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REVIEW

Times Tables Games for 7 to 11 year olds - Topmarks

<https://www.topmarks.co.uk> › [maths-games](#) › [7-11-years](#) › [times-tables](#) ▼

They provide the repetition necessary for children to consolidate their knowledge of times tables and they include games involving factors and multiples. Hit the Button. Mental Maths Trail. Coconut Multiples. Daily 10. Arithmetic - **Multiplication**, Division, Factoring. Maths Fish. Tommy's Trek. Connect 4 Factors.

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Play these fun Maths Games for 7-11 year olds

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Times Tables Games

Maths games can be a fun way to learn the times tables. These times tables games have been selected to provide practise for children who are beginning to understand the concepts of multiplying numbers. They provide the repetition



Times tables board game

You will need:

A dice.

A coloured counter for each player.

Game board.

Times tables cards.

Rules:

1. Everyone chooses a coloured counter.
2. The first person rolls the dice and moves their counter the appropriate number of spaces.
3. If they land on a **pink** square they take a card (for the appropriate table they are learning) and work out the answer.
4. If they get the answer **correct** they **move on 2 spaces**.
5. If they get the answer **wrong** they **move back 1 space**.
6. **You can use a multiplication grid to check your answer!**
7. The winner is the first person to reach the

Look at your definition of times tables. Has it changed?

‘Can’t we just use a calculator to multiply these numbers together?’ - understanding written multiplication

What does the National Curriculum say about multiplication?

Year 5

- Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

Year 6

- Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Multiplication - expanded and column multiplication

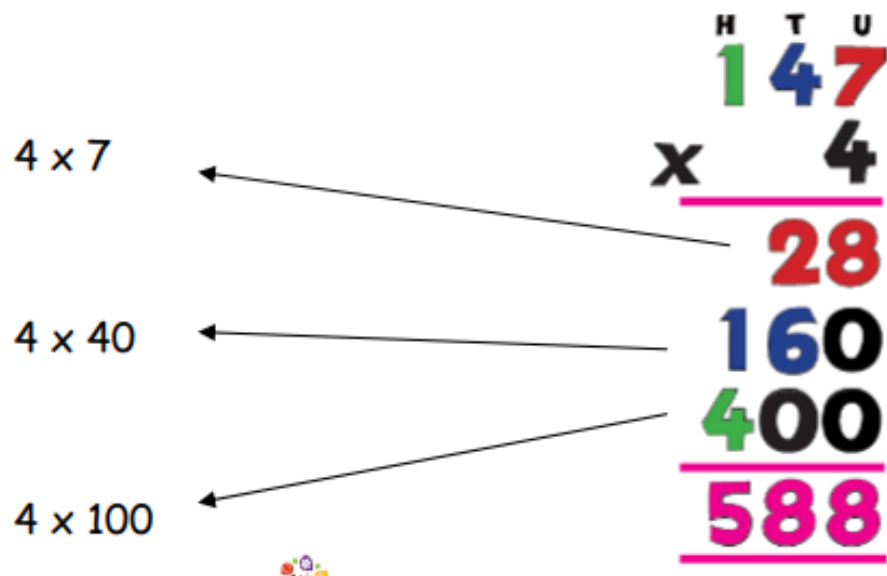


Diagram illustrating the expanded multiplication of 147×4 . The multiplicand 147 is shown with place value labels: H (Hundreds) for 1, T (Tens) for 4, and U (Units) for 7. The multiplier 4 is aligned under the units column. The calculation is broken down into three steps, each with an arrow pointing to the corresponding part of the final result:

- 4×7 (Units) results in 28.
- 4×40 (Tens) results in 160.
- 4×100 (Hundreds) results in 400.

The final result is 588, which is the sum of 28, 160, and 400.



Diagram illustrating the column multiplication of 147×4 . The multiplicand 147 is shown with place value labels: H (Hundreds) for 1, T (Tens) for 4, and U (Units) for 7. The multiplier 4 is aligned under the units column. The final result is 588, with a carry of 1 from the tens column to the hundreds column.

Your turn:

$$132 \times 6$$


$$414 \times 5$$


$$732 \times 8$$


Imagine how hard this must be for a child who doesn't know their times tables?

Long multiplication

$$\begin{array}{r} 96 \\ \underline{32} \times \\ 192 \\ 2880 \\ \hline 3072 \end{array}$$

 this is 96×2

 this is 96×30

 this is 96×32

Your turn:

$$32 \times 16$$

$$41 \times 25$$

$$732 \times 28$$

$$321 \times 22$$

Imagine how hard this must be for a child who doesn't know their times tables?

Mastering multiplication: Now we know it, what do we do with it?

Each of you draw a multiplication grid like this:



Throw the dice four times each until all the cells are full.

Whoever has the product closest to 1000 wins.

There are two possible scoring systems:

- A point for a win. The first person to reach 10 wins the game.
- Each player keeps a running total of their "penalty points", the difference between their result and 1000 after each round. First to 5000 loses.

You can vary the target to make it easier or more difficult.

‘Long division is harder to crack than the Da Vinci code - someone help!’ - understanding written division

What does the National Curriculum say about division?

Year 5

- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context

Year 6

- Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long and short division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

Sharing

$$6 \div 2$$

6 candy canes are shared between 2 children.
How many candy canes does each child get?



Grouping

$$6 \div 2$$

There are 6 candy canes. How many children
can have two each?



Your turn: Using the counters, what are the two ways you
could show $10 \div 5$?

Division - short division

$$\begin{array}{r} 24 \\ 4 \overline{) 96} \\ \underline{96} \\ 0 \end{array}$$

$96 \div 4 = 24$

$$\begin{array}{r} 0712 \text{ r}3 \\ 6 \overline{) 4275} \\ \underline{42} \\ 75 \\ \underline{72} \\ 3 \end{array}$$

Your turn:

$$532 \div 3$$

$$641 \div 5$$

$$6372 \div 8$$

Division - long division

$$\begin{array}{r}
 \textcolor{red}{017,10} \\
 25 \overline{) 435} \\
 \underline{0 \downarrow} \\
 43 \\
 \underline{25 \downarrow} \\
 185 \\
 \underline{175} \\
 010
 \end{array}$$

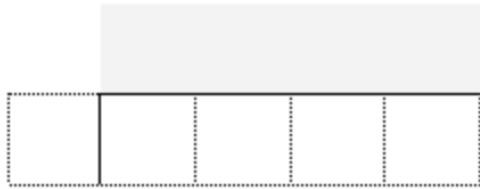
Your turn:

$$372 \div 13$$

$$732 \div 21$$

$$632 \div 32$$

Mastering the four number operations: Now we know it, what do we do with it?



Each of you draw a division grid like this:

Throw the dice five times each until all the cells are full.

Whoever has the answer closest to 1000 wins.

There are two possible scoring systems:

- A point for a win. The first person to reach 10 wins the game.
- Each player keeps a running total of their "penalty points", the difference between their result and 1000 after each round. First to 5000 loses.

You can vary the target to make it easier or more difficult.

What's next?



- Calculation Policy on the school website
- Try the games we have practised today with your child - they'll love it!
- Supporting home learning through the methods we have explored today
- Visit times tables games online