

Supporting Maths in Year 4

A key headline for Maths in Year 4 is that pupils should be fluent in all times tables to 12. Pupils will take part in the Multiplication Tables Check in June of Year 4. You should continue to practise with your children at home and Times Tables Rock Stars can help to support this.



This will be modelled using **Base 10** apparatus

ADDITION Expanded method: moving on from adding the *most significant digits* first to adding *least significant digits* first

HTU + TU
625 + 148

Why switch to adding the units (*least significant digits*) first?

I know that I can add numbers in any order and the total will be the same. My teacher has told me that I need to practise adding the units first. The next method I will learn works this way. I must remember to line the numbers up in the correct columns.

HTU + HTU
625 + 148

Add *most significant digits* first:
(in this example, *hundreds*)

Add *least significant digits* first:
(in this example, *units*)

$$\begin{array}{r} 625 \\ + 148 \\ \hline 773 \end{array}$$

$$\begin{array}{r} 600 + 100 \\ 20 + 40 \\ 5 + 8 \end{array}$$

$$\begin{array}{r} 625 \\ + 148 \\ \hline 773 \end{array}$$

$$\begin{array}{r} 13 \\ 5 + 8 \\ 700 \\ 600 + 100 \end{array}$$

Mentally add

$$700 + 60 + 13 = 773$$

$$625 + 148 = 773$$

SUBTRACTION Standard method (*decomposition*)

HTU - HTU
754 - 286

Why didn't you use the standard method straight away?

Because all the stages I have learnt before have really helped me understand exactly what I'm doing.

HTU - HTU
754 - 286

54 is the same value as 40 + 10 + 4.
Now 6 can be subtracted from 14.

740 is the same value as 600 + 100 + 40.
Now 80 can be subtracted from 140.

Or, more efficiently the *standard method*.

$$\begin{array}{r}
 700 + 50 + 4 \\
 - 200 + 80 + 6 \\
 \hline
 500 + 10 + 14 \\
 - 200 + 80 + 6 \\
 \hline
 300 + 140 + 14 \\
 - 200 + 80 + 6 \\
 \hline
 100 + 60 + 8 = 168
 \end{array}$$

$$\begin{array}{r}
 754 \\
 - 286 \\
 \hline
 468
 \end{array}$$

Stages will be modelled using **Base 10** apparatus

MULTIPLICATION

TU x TU
46 x 32

I recognise the long multiplication method. How do you multiply 46 by 30?

Well... I know that 46 x 30 is the same as 46 x 3 x 10. I know my answer will end in zero when I multiply this whole number by 10. So... I put the zero in first. Then I multiply 46 x 3 using the short multiplication method.

TU x TU
46 x 32

GRID METHOD

x	40	6	
30	1200	180	1380
2	80	12	92
			1472

EXPANDED METHOD

The 4 *part products* are set out vertically underneath the calculation.

$$\begin{array}{r}
 46 \\
 \times 32 \\
 \hline
 1200 \quad (40 \times 30) \\
 180 \quad (6 \times 30) \\
 80 \quad (40 \times 2) \\
 12 \quad (6 \times 2) \\
 \hline
 1472
 \end{array}$$

Part products totalled to give final product.

DIVISION BY CHUNKING

HTU ÷ U
256 ÷ 7

How do you decide what size chunk to subtract?

I look for chunks of 10 first. If I take bigger chunks it makes the calculation quicker and easier. Method C is shorter and more efficient than B.

HTU ÷ U
256 ÷ 7

How many groups of 7 in 256?

A

30 x 7

10 x 7

10 x 7

10 x 7

6 x 7

r4

B

256
-70 (7 x 10)
186
-70 (7 x 10)
116
-70 (7 x 10)
46
-42 (7 x 6)
4

Subtract chunks of 70 (7 x 10).

How many groups of 7 in 46?

Total the numbers of groups of 7.

$10 + 10 + 10 + 6 = 36$

C

256
-210 (7 x 30)
46
-42 (7 x 6)
4

Subtract one large chunk of 210 (7 x 30).

36 groups of 7 have been subtracted and there is 4 left over.

Children will also link remainders with fractions or decimals in context.

256 ÷ 7 = 36 r4

Use of symbols = equal to < less than > greater than

Fractions

Pupils should be able to count up and down in tenths and recognise that a whole divided by 10 is 0.1.

They should be able to recognise and use fractions as numbers as well as add and subtract fractions and mixed numbers with like denominators.

Pupils should be able to recognise and identify equivalent fractions.