

Y4

## ADDITION

## SUBTRACTION

## MULTIPLICATION

## DIVISION

NWLJDS CALCULATIONS POLICY (MAY 2023)

In Year 4, children should be able to add numbers up to 5 digits using the formal written method (column addition), adding the ones first and 'carrying' numbers underneath the calculation. Place value grids are used to support laying out the calculations correctly.

e.g.  $3517 + 396 = 3916$

$$\begin{array}{r} + 3517 \\ 396 \\ \hline 3913 \\ 11 \end{array}$$


This is extended to decimals with the same number of decimal places in the context of money towards the end of the year, carefully aligning place value columns and decimal points.

$$\begin{array}{r} 18.42 \\ + 5.37 \\ \hline 23.79 \end{array}$$

Children learn that the decimal points should line up under each other, particularly when adding or subtracting mixed amounts.

eg:  $\text{£}3.59 + 78\text{p}$

Using diagrams, children learn how to add 2 or more fractions with like denominators, understanding that you add the numerators, not the denominators.



$$\frac{2}{11} + \frac{5}{11} + \frac{1}{11} = \frac{2+5+1}{11}$$

In Year 4, children should be able to subtract up to 5 digits using the formal written method (column subtraction/ decomposition method) with regrouping/exchanging. Place value grids are used to support laying out the calculations correctly.

It is explained through place value that you exchange 1 ten for 10 ones.

eg:

$$\begin{array}{r} \cancel{2} \cancel{1} \cancel{7} \quad 17 \\ - \quad \quad 49 \\ \hline 278 \end{array}$$

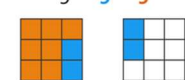
This is extended to decimals with the same number of decimal places in the context of money and measurement.

Using this method, children should be able to find the difference between two three-digit sums of money, carefully aligning place value columns and decimal points.

eg:

$$\begin{array}{r} \text{£} \cancel{9} \cancel{7} \cancel{1} \quad 10 \\ - \text{£} 2 \quad 9 \quad 9 \\ \hline \text{£} 4 \quad 5 \quad 1 \end{array}$$

Using diagrams, children learn how to subtract fractions with like denominators, understanding that you subtract the numerators, not the denominators.

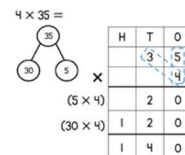
$$\frac{11}{9} - \frac{4}{9} = \frac{7}{9}$$


By the end of Year 4, children will know all the times tables up to  $12 \times 12$ . Children use a mixture of strategies, including arrays, repeated addition, counting and the times tables they already know to learn the remaining times tables.

They also learn to multiply given numbers by 10, 100 and 1000, including decimals.

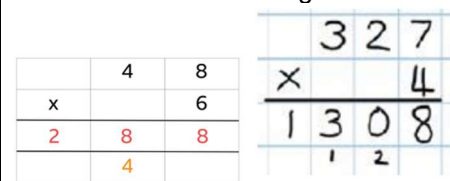
Children should continue to multiply 2-digit numbers by a 1 digit number using the expanded method.

$4 \times 35 =$



Once secure on the expanded method, children should then be taught to use the compact short multiplication method.

This involves multiplying 2- or 3- digit numbers by a single digit number using all the multiplication tables up to  $12 \times 12$  with and without exchange.



In Year 4, children should learn all related division facts for their times tables up to  $12 \times 12$ . They then learn to divide 2 and 3 digit numbers by a single digit using the short division / bus stop method.

They also learn to divide given numbers by 10, 100 and 1000, including decimals.

Pupils must be secure with the process of short division for dividing 2 digit numbers by a single digit.

$$\begin{array}{r} 18 \\ 4 \overline{) 72} \\ \underline{4} \phantom{0} \\ 3 \phantom{0} \\ \underline{3} \phantom{0} \\ 0 \end{array}$$

Pupils then move onto dividing numbers with up to 3 digits by a single digit.

$$362 \div 7 =$$

$$\begin{array}{r} 51 \text{ r}5 \\ 7 \overline{) 362} \\ \underline{35} \phantom{0} \\ 12 \phantom{0} \\ \underline{14} \phantom{0} \\ 2 \end{array}$$

Any remainders should be shown as integers ie: 51 remainder 5 or  $51 \text{ r}5$ .

This will be applied to real life contexts, including money and measure, but problems will not result in a remainder at this stage.