

Maths in Year 5

Calculation methods

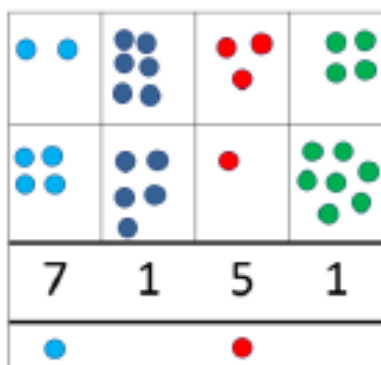
In Year 5, we look at building on prior knowledge from year 3 and 4 and continue building conceptual number sense up to a million. Here is an overview of the key arithmetic skills taught in year 5 and how the knowledge is acquired.

Addition:

$$\text{addend} + \text{addend} = \text{sum}$$

- To use the formal column addition method to add numbers using the thousand column with regrouping.
- To use the formal addition method to add decimals.

We revise the pictorial representation before moving onto the formal column method for addition, which revisits prior learning.



Once children have mastered partitioning (in previous years), they will move onto the formal written method.

$$\begin{array}{r} 536 \\ + 85 \\ \hline 621 \\ 11 \end{array}$$

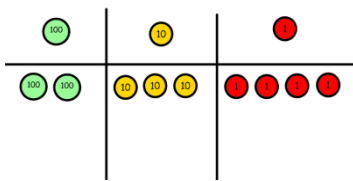
This will then include decimal numbers.

$$\begin{array}{r} 72.8 \\ + 54.6 \\ \hline 127.4 \\ 11 \end{array}$$

Subtraction

$$\text{minuend} - \text{subtrahend} = \text{difference}$$

- To use the formal column subtraction method to subtract numbers using the millions column with regrouping.
- To use the formal subtraction method to subtract decimals



Calculations

$$\begin{array}{r} 234 \\ - 88 \\ \hline \end{array}$$

We revisit the pictorial representation before moving onto the formal method for subtractions.

$$836 - 254 = 582$$

	H	T	U
	800	30	6
-	200	50	4
	500	80	2

$$728 - 582 = 146$$

	H	T	U
	700	20	8
-	500	80	2
	100	40	6

Once they have mastered this, this will include decimal numbers too.

$$\begin{array}{r} 23.47 \\ - 1.59 \\ \hline 1.88 \end{array}$$

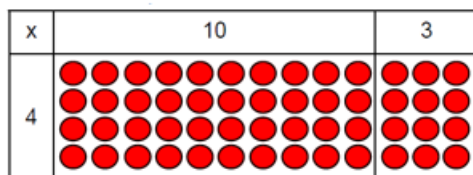
Multiplication

factor x factor = product

In year 5 we will be using the formal written method to complete short multiplications and long multiplications.

- To multiply a four digit and one digit number together using the short multiplication method.
- To multiply a four digit and two digit number together using the long multiplication method

We revisit arrays and grid method to secure understanding of place value with the formal written method.



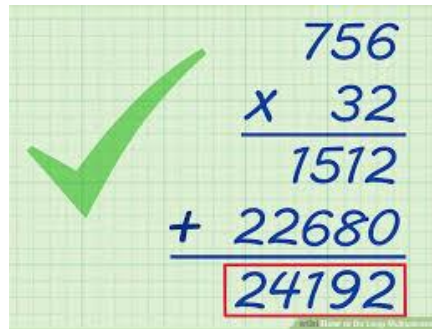
4 rows of 10
4 rows of 3

$$24 \times 3 = 72$$

X	20	4
3	00 00 00 60	0000 0000 0000 12 60 + 12 72

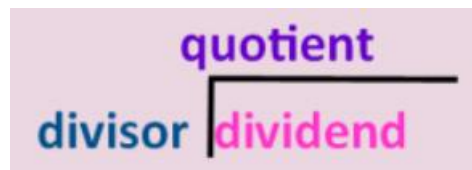
When secure we will revise the formal written method for short multiplication before moving onto long multiplication (multiplying a multiplicand by a 2-digit number only).

$$\begin{array}{r}
 487 \\
 \times 9 \\
 \hline
 4393 \\
 \hline
 78
 \end{array}$$



$$\begin{array}{r}
 756 \\
 \times 32 \\
 \hline
 1512 \\
 + 22680 \\
 \hline
 24192
 \end{array}$$

Division



In year 5, we use short division to solve calculations.

- To divide a four digit number by a one digit number using short division (with and without remainders).

$$8785 \div 7$$

$$\begin{array}{r}
 1255 \\
 7 \overline{) 8785}
 \end{array}$$

$$8785 \div 7 = 1255$$