

Dictionary of Maths Words and Methods

Value – **how much a number is worth** – this helps with ordering.

Hundreds	Tens	Units
300	60	4

So we write 364 which means three hundreds, six tens and four units.

Greater than / Less than

543 is greater than (>) 376 as it has 5 hundreds and 376 only has 3 hundreds.

456 is less than (<) 472 as it has the same number of hundreds but less tens – only 4 tens instead of 7 tens.

We use < or > and draw it like a crocodile's mouth and say the crocodile always eats the greater amount.

$$6 \quad \img alt="A cartoon crocodile with a green body and yellow belly, facing right with its mouth open." data-bbox="228 431 395 471"/> \quad < \quad 12$$

e.g. $6 < 12$ means 6 is less than 12.

$$12 \quad > \quad \img alt="A cartoon crocodile with a green body and yellow belly, facing left with its mouth open." data-bbox="438 573 590 611"/> \quad 6$$

e.g. $12 > 6$ means 12 is greater than 6.

Number bonds – knowledge of these speeds up ability to add and subtract numbers.

$$1 + 9 = 10$$

$$4 + 6 = 10$$

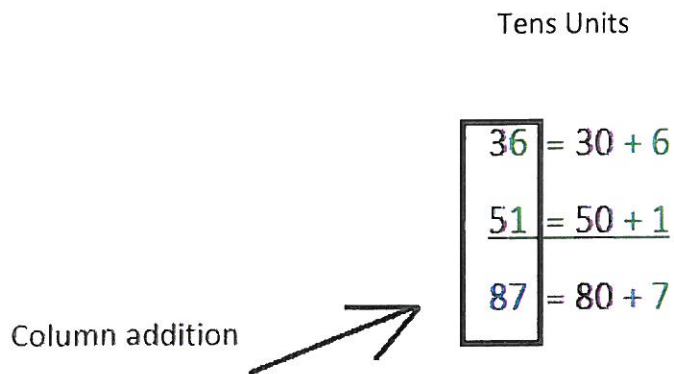
$$2 + 8 = 10$$

$$5 + 5 = 10$$

$$3 + 7 = 10$$

These can be extended to $60 + 40 = 100$ and then onto $62 + 38 = 100$.

Partitioning – to break into parts – develops into column addition.



Decomposition – to breakdown - subtraction involving borrowing.

e.g. needing to 'Knock on the door and ask for more' from your immediate neighbour.

Borrowing a ten:

$$\begin{array}{r} 2316 \\ - 19 \\ \hline 17 \end{array}$$

Borrowing a 100:

$$\begin{array}{r} 56102 \\ - 381 \\ \hline 221 \end{array}$$

Borrowing a 10 and a 100:

$$\begin{array}{r} 4516716 \\ - 198 \\ \hline 378 \end{array}$$

Grid Method – modern method for long multiplication.

$$\begin{array}{r} 34 \\ \times 26 \\ \hline 204 \\ \underline{680} \\ \hline 884 \end{array}$$

Grid Method:

- 1) Break down the numbers into tens and units e.g. $34 = 30 + 4$.
- 2) Use your times tables to fill in the grid e.g.

$$\begin{aligned} 20 \times 30 &= 2 \times 10 \times 3 \times 10 \\ &= 2 \times 3 \times 10 \times 10 \\ &= 6 \times 100 \\ &= 600 \end{aligned}$$

\times	30	4
20	600	80
6	180	24

- 3) Only add the numbers shown in the grey box!
Line them up carefully along a straight line,
to make sure all the units are in the units column.

$$\begin{array}{r} 600 \\ 180 \\ 80 \\ + 24 \\ \hline 884 \end{array}$$

Chunking – modern method of long division.

$$\begin{array}{r} 186 \\ 3 \overline{) 52518} \end{array}$$

In this example of chunking we are dividing by 3.

So we are taking away multiples of 3 e.g. $3 \times 100 = 300$.

$$\begin{array}{r} 3 \overline{) 558} \\ - 300 \\ \hline 258 \\ - 240 \\ \hline 18 \\ - 18 \\ \hline 00 \end{array} \quad \begin{array}{l} = 3 \times 100 \text{ (we choose this as 300 is less than 500)} \\ = 3 \times 80 \text{ (we chose this as 240 is less than 258)} \\ = 3 \times 6 \text{ (we chose this as it equals 18)} \\ \hline + 186 \end{array}$$

To find the answer we look at the **blue column** and add up how many 3's we have e.g. $100 + 80 + 8 = 186$

Place Holder - helps us understand the value of a number

e.g. if we take the digits 5, 6 and 0, we can put them in any order but the order dictates how much the number is worth.

£ 5 . 60	if the zero is at the end e.g. five pounds and 60 pence
£ 0. 56	if the zero is at the beginning e.g. fifty six pence
£ 5. 06	if the zero is in the middle e.g. five pounds and six pence

We call the zero (0) the place holder as it holds the other digits in position – without it the above numbers would be 56p, 56p and 56p.

Numicon (www.numicon.com) – useful equipment to teach numeracy.

They are available in tens and units but are expensive.

So, straws can be a good alternative, and elastic bands can be used to group them in tens and even hundreds.



◦ 1st Steps with Numicon at Home – Book of Activities (1)

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