

Year 3 Written Methods

Addition - Expanded Column Method



25	+	13	
	T		U
20		5	
+ 10		3	
30		8	= 38

Always start with the units (ones) column.
No regrouping needed.



25	+	17	
	T		U
20		5	
+ 10		7	
40		2	= 42
10			

Regrouping needed as the units column goes over 9.



265	+	178	
	H	T	U
200		60	5
+ 100		70	8
400		40	3
100		10	= 443

Regrouping needed into both the tens and hundreds columns.

Subtraction – expanded column method



86	-	34	
	T		U
80		6	
- 30		4	
50		2	= 52

Always start with the units (ones) column.
Start with the top number “6 take away 4”.
No regrouping needed.



73	-	45	
	T		U
60		3	
- 40		5	
20		8	= 28

Start with the top number “3 take away 5 you can’t do”.
Regrouping needed (move a ten from the tens into the units).



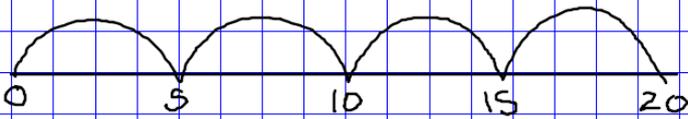
836	-	381	
	H	T	U
700		30	6
- 300		80	1
400		50	5
			= 455

Regrouping needed into the tens column (move 100 from the hundreds into the tens to make 130).

Children are encouraged to use their fingers to aid mental addition and subtraction. They are taught to use “counting on” when the numbers are close, although some children prefer to always count backwards. Children use place value counters to help their understanding of regrouping. Numberlines in tens to 200 help their subtraction when it needs to cross the hundreds boundary (e.g 130 – 80).

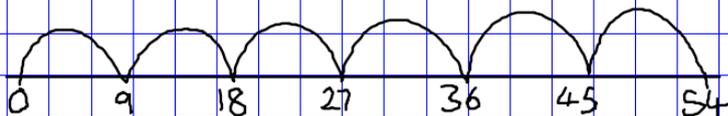
Multiplication – numberline method

 4×5 (4 lots of 5) = 20



Calculations are also referred to as “lots of”.
Children start with easier tables.
Always start at zero and count up in “jumps”.

 $6 \times 9 = 54$



Children move onto higher tables which makes the counting or “jumps” harder.

 $15 \times 3 = 45$

10×3 5×3



For calculations above 10, children “chunk” and calculate “ten lots” first.

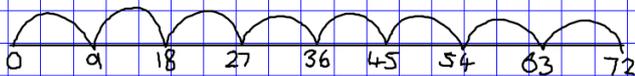
Division – numberline method

 $30 \div 5$ (How many 5s in 30?) = 6



Calculations are also referred to as “How many 5s in 30?” and children are encouraged to “turn the calculation around”. Start at zero and jump in “groups of”. The answer is how many groups or jumps.

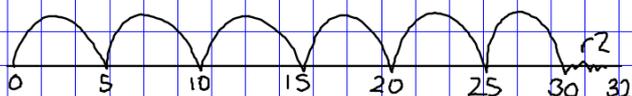
 $72 \div 9 = 8$



Children move onto higher tables, which makes accurate counting on the numberline more challenging.

Remainders

$32 \div 5 = 6 \text{ r}2$



Children move onto calculations which give rise to remainders quickly, even if they are only using the lower tables.

Numicon is used as a concrete resource for working out “lots of” in multiplication and “groups of” in division. Accurate recall of tables helps in both multiplication and division calculations. We are aiming for instant recall of tables rather than using fingers for counting through the tables.