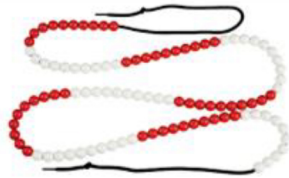
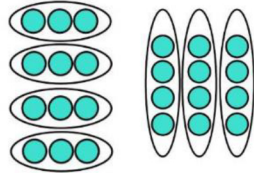
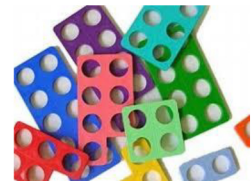


St Mary's Catholic
Primary School,
a Voluntary Academy

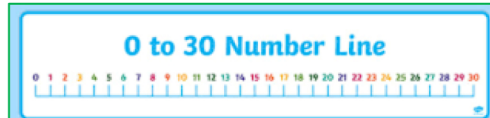
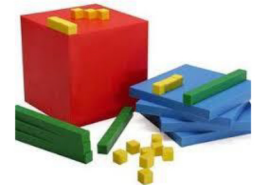
Calculation Policy
Simplified



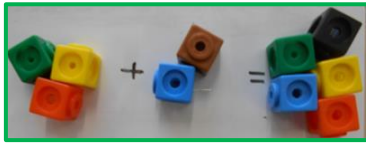
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



**CONCRETE
PICTORIAL
ABSTRACT**



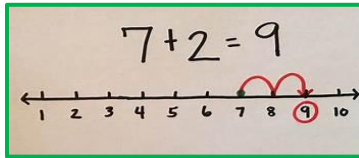
Addition starts by adding objects



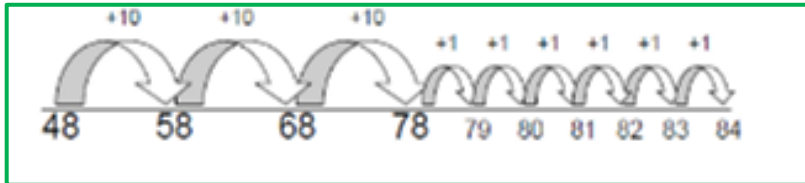
Bead string



Number line (Manipulatives and then onto jottings)

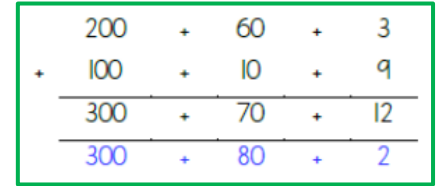
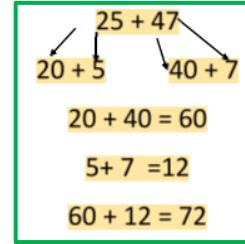


Empty number line (jottings)

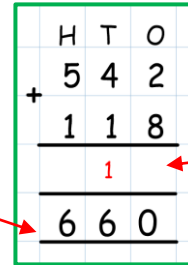


Addition

For larger numbers we regroup horizontally (Partitioning) Y2 and beyond

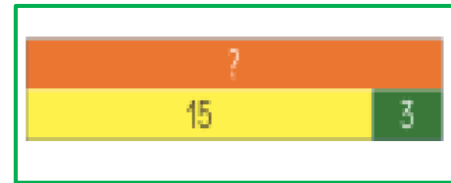
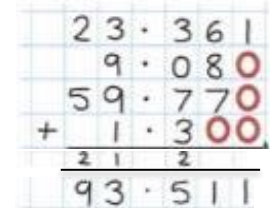


Column addition with exchange box Y3 and beyond.

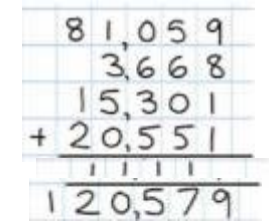


Answer box

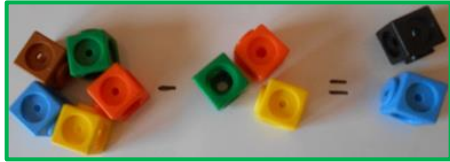
Exchange box/row for exchanges/regrouping



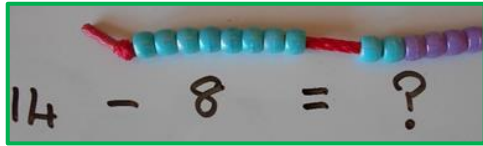
Bar model representative



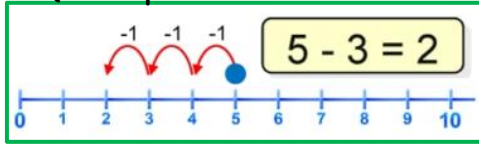
Subtraction starts with taking away objects



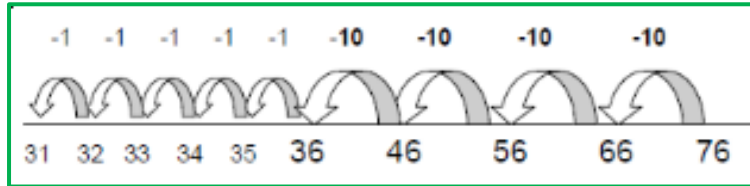
Bead string



Number line (Manipulatives and then onto jottings)

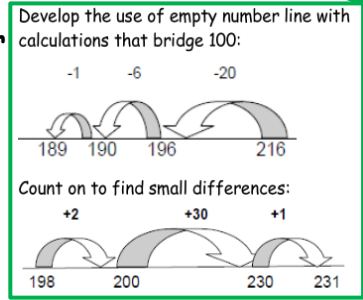


Empty number line (jottings)



Subtraction

Empty number lines that bridge 100



For larger numbers regroup horizontally (Partitioning)

$$\begin{array}{r} 90 \ 8 \\ - 30 \ 5 \\ \hline 60 \ 3 \end{array}$$

		50		13
200	+	60	+	3
- 100	+	10	+	9
<hr/>				
100	+	40	+	4

Then vertically until we eventually progress to exchanging (Column method for exchanging) Y3 and beyond

$$\begin{array}{r} 5 \ 13 \ 1 \\ \cancel{5} \ \cancel{13} \ 6 \ 7 \\ - 2 \ 6 \ 8 \ 4 \\ \hline 3 \ 7 \ 8 \ 3 \end{array}$$

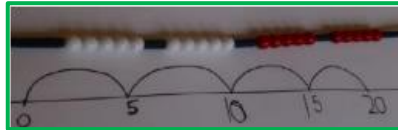
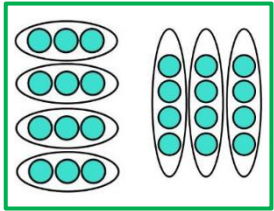
First, we group objects as a representation



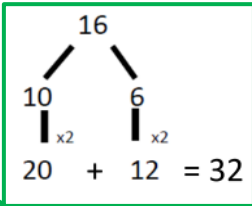
Bead string



Arrays



Number line and onto an empty number line to show as repeated addition (manipulatives and jottings)

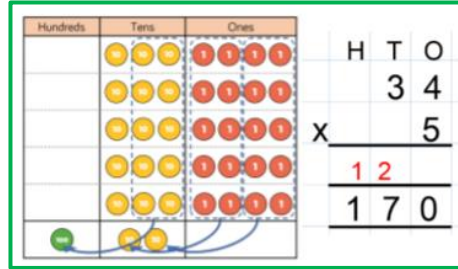


Partitioning method

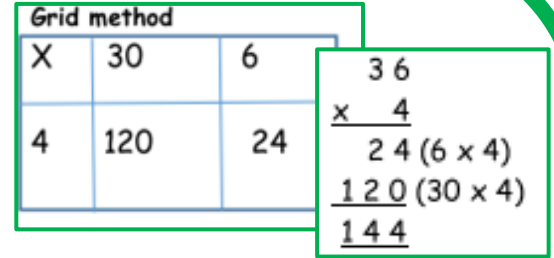
$$\begin{array}{r}
 27 \times 5 = \\
 20 \times 5 = 100 \\
 7 \times 5 = 35 \\
 \hline
 135
 \end{array}$$

Multiplication

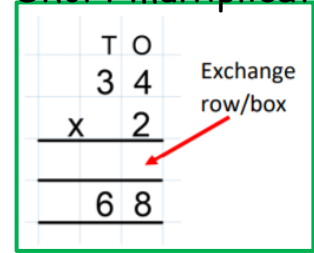
Place value chart alongside short multiplication (Y3-4)



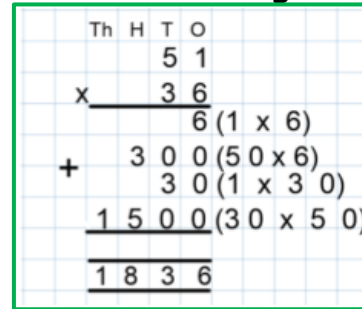
Grid method/Area model



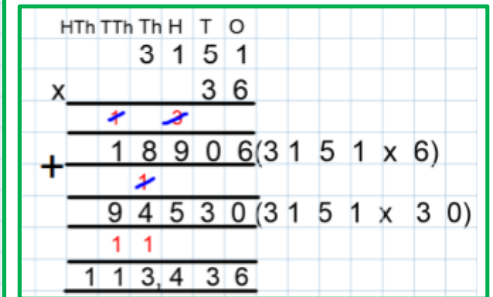
Short multiplication (Y3-4)



Long multiplication (Y5 and beyond)



(Expanded version)



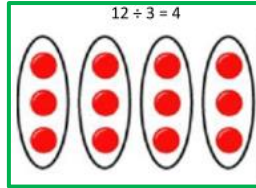
Division begins with sharing



Bead string



Sharing using arrays



Number line and onto an empty number line to show as repeated addition and subtraction (manipulatives and jottings)

Example without remainder:
 $40 \div 5$
 Ask "How many 5s in 40?"

$-15 (3 \times 5)$ $-50 (10 \times 5)$

Division

Chunking

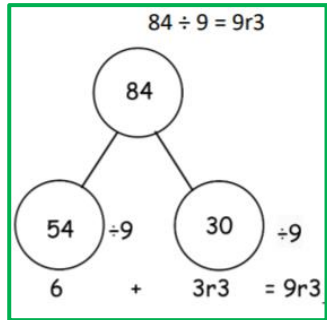
Division using bar models



$8 \div 4 = 2$

$73 \div 5$

How many 5s have been subtracted?
 14 sets of 5, with 3 left over.
Answer: $73 \div 5 = 14 \text{ r}3$



Partitioning to aid division Y3 and beyond

Short division Y4 and beyond

Begin with divisions that divide equally with no remainder.

Move onto divisions with a remainder.