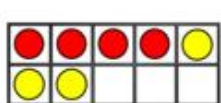


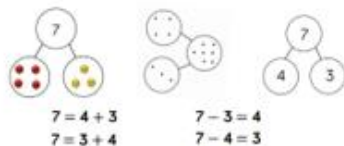
Addition

Tens frame



$4 + 3 = 7$ 4 is a part.
 $3 + 4 = 7$ 3 is a part.
 $7 - 3 = 4$ 7 is the whole.
 $7 - 4 = 3$

Part-whole model



$7 = 4 + 3$
 $7 = 3 + 4$

$7 - 3 = 4$
 $7 - 4 = 3$

Number tracks

$5 + 3 = 8$



Numicon

Cubes

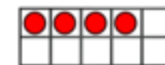


$7 = 4 + 3$

$7 = 3 + 4$

Subtraction

Tens frame



$7 - 3 = 4$

$10 - 4 = 6$

Cubes

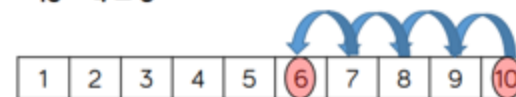


$7 - 3 = 4$



$7 - 3 = 4$

Number tracks



Key vocabulary: add, more, make, sum, total, altogether, how many more

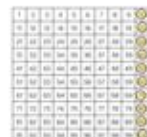
Key vocabulary: take away, subtract, less than, left over

Multiplication

Concrete resources (counting in 2, 5s)



100 square



Key vocabulary: double, twice as many, two lots, groups of

Division

Concrete resources (sharing)



Concrete resources (halving)



Key vocabulary: share, halve, groups of

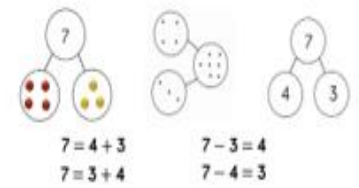


KS1 Calculation Policy

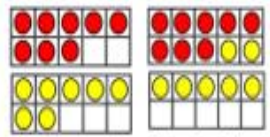


Addition

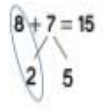
Part-whole model



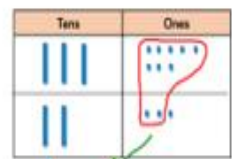
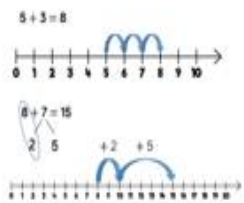
Tens frame



Partitioning



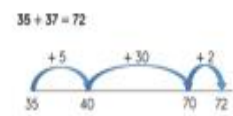
Number lines



Base 10

$$\begin{array}{r} 38 \\ + 23 \\ \hline 61 \end{array}$$

Column addition



Blank number lines

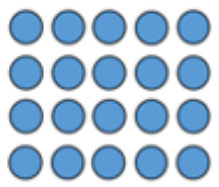
Key vocabulary: add, plus, altogether, double, near double, sum, total

Multiplication

Number Lines



Arrays



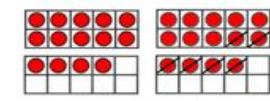
$$\begin{array}{l} 5 + 5 + 5 + 5 = 20 \\ 4 \times 5 = 20 \\ 5 \times 4 = 20 \end{array}$$

Repeated addition

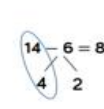
Key vocabulary: times, multiply, repeated addition, how many times, how many lots of

Subtraction

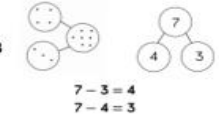
Tens frame



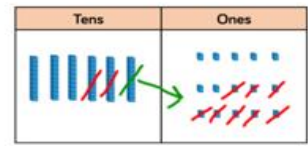
Partitioning



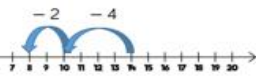
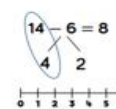
Part-whole model



Base 10



$$\begin{array}{r} 65 \\ - 28 \\ \hline 37 \end{array}$$



Number lines

Bar model



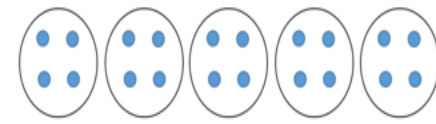
$$7 - 3 = 4$$

Column subtraction

Key vocabulary: take away, minus, subtract, difference, half, halve, less than

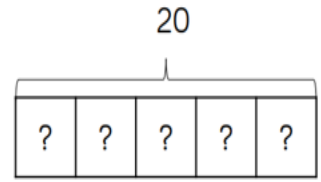
Division

Sharing/grouping



$$20 \div 5 = 4$$

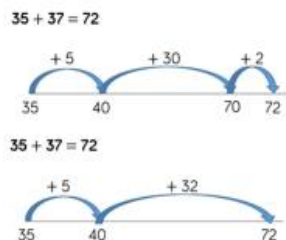
Bar model



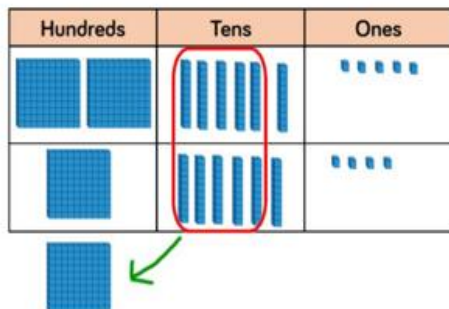
Key vocabulary: divide, share, groups of, lots of, equal groups, left over

Addition

Number lines
(Numbered/blank)



Base 10

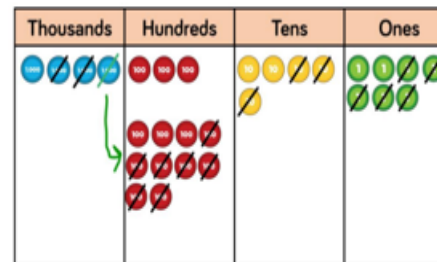


Column addition

$$\begin{array}{r} 265 \\ + 164 \\ \hline 429 \\ 1 \end{array}$$

Subtraction

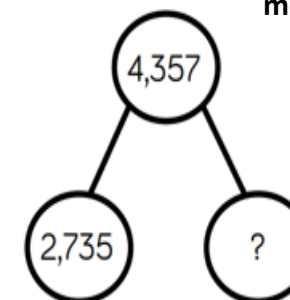
Place value counters and grid



Column subtraction

$$\begin{array}{r} 3 \quad 1 \\ 4357 \\ - 2735 \\ \hline 1622 \end{array}$$

Part-whole model



Key vocabulary: add, plus, altogether, double, near double, sum, total,

Key vocabulary: subtract, take away, difference, subtrahend, exchange, minuend

Multiplication

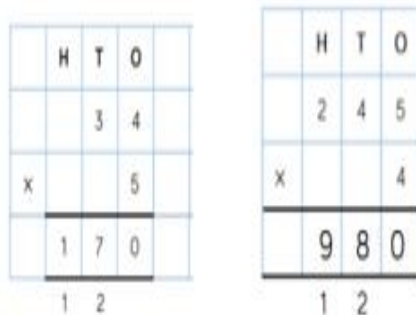
Place value counters



Place value chart

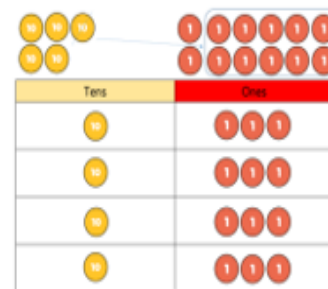


Short multiplication



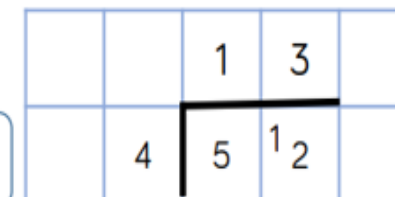
Division

Place value counters



$$52 \div 4 = 13$$

Short division
(Bus stop method)



Key vocabulary: product, factors, times, multiply, exchange, scale, commutative

Key vocabulary: group, share, divide, distributive, remainders, dividend, divisor, quotient



Addition

Column addition

1	0	4	3	2	8
+	6	1	7	3	1
1	6	6	0	5	9

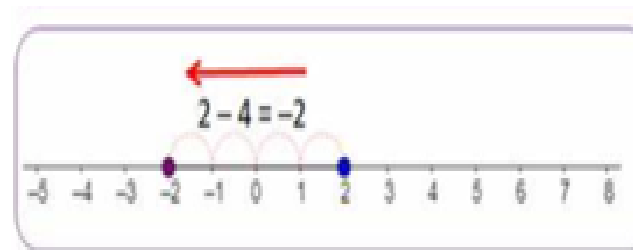
1

$$\begin{array}{r} 3.65 \\ + 2.41 \\ \hline 6.06 \\ 1 \end{array}$$

Key vocabulary: add, plus, altogether, double, near double, sum, total, addend

Subtraction

Number lines (negative numbers)



Column subtraction

	2	9	3	1	8	2
-	1	8	2	5	0	1
	1	1	1	8	8	1

Key vocabulary: subtract, take away, difference, subtrahend, exchange, minuend

Multiplication

Place value chart

1000	100	10	1	.	$\frac{1}{10}$	$\frac{1}{100}$
Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths

Short/long multiplication

Th	H	T	O	
	2	3	4	
x		3	2	
	4	6	8	
1	7	0	2	0
7	4	8	8	

TTh	Th	H	T	O	
	2	7	3	9	
x			2	8	
	2	1	9	1	2
	5	4	7	8	0
	7	6	6	9	2

Key vocabulary: product, factors, times, multiply, exchange, commutative, prime/squared/cubed numbers

Division

Short division
(Bus stop method)

	4	2	6	6
2	8	5	13	12

'Keep, change, flip' to divide fractions

Keep Change Flip

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c}$$

Key vocabulary: group, share, divide, distributive, remainders, dividend, divisor, quotient