

# Sense of Number Visual Calculation Policy

**Expanded Edition for**  
**Toner Avenue Primary School**  
**March 2015**



**Graphic Design by Dave Godfrey**  
**Compiled by the Sense of Number Maths Team**

**For sole use within Toner Avenue Primary School.**



**‘A picture is worth 1000 words!’**  
**[www.senseofnumber.co.uk](http://www.senseofnumber.co.uk)**

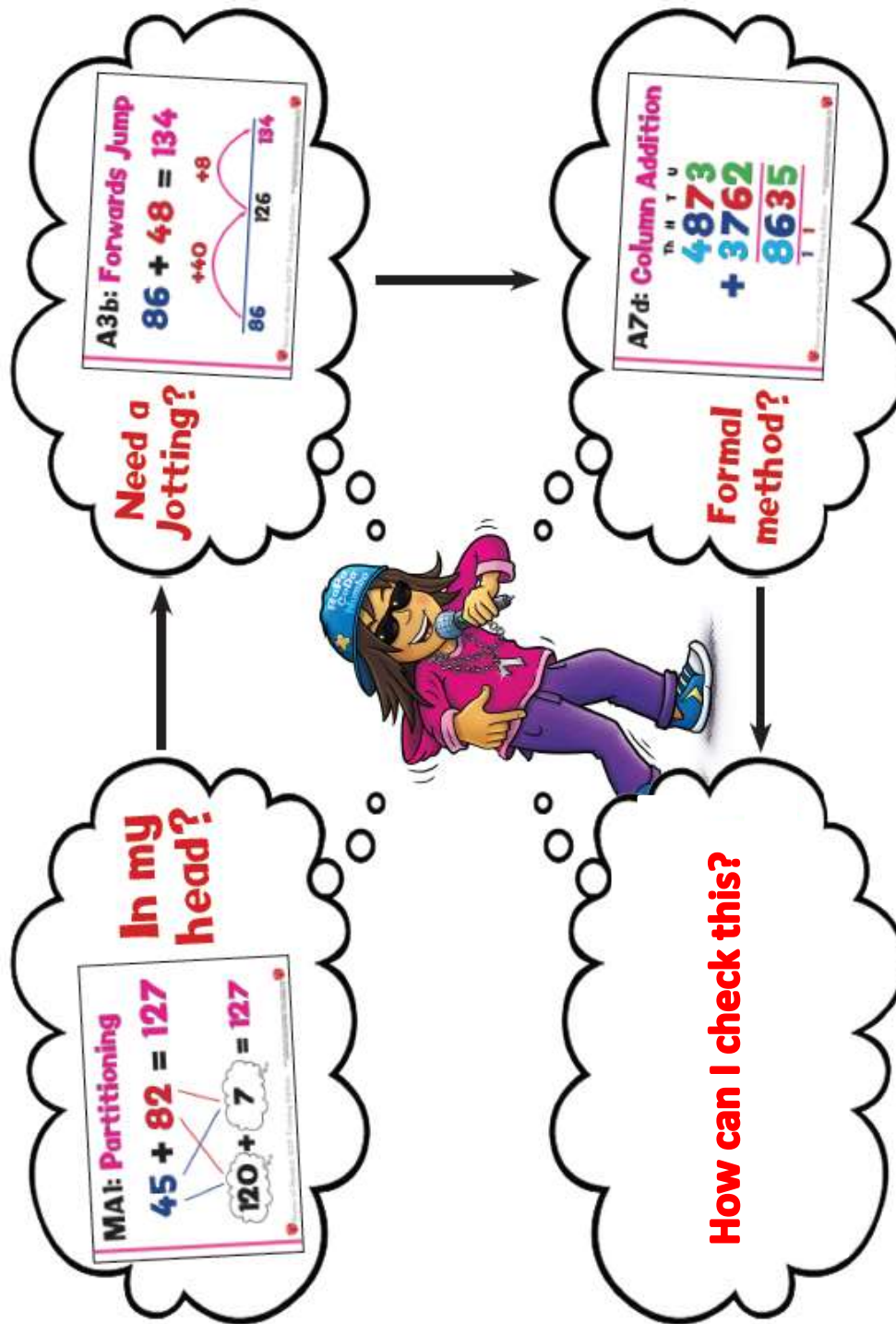


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We want our pupils to make decisions. We help our pupils make choices to be fast and efficient at maths.



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This is how we can ask and answer our questions.

# KC1: Key Concepts!

## Addition

+

$$8 + 2 = 10$$

"What is 8 add 2?"  
Answer: 10

## Subtraction

-

$$8 - 2 = 6$$

"What is 8 subtract 2?"  
Answer: 6  
"The difference between 8  
and 2 is 6"



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# KC2: Key Concepts!

## Multiplication

x

$$8 \times 2 = 16$$

"8 multiplied by 2" means  
"8, 2 times" or  
"2 groups of 8"

## Division

÷

$$8 \div 2 = 4$$

"8 divided by 2" means "How  
many groups of 2 are there in  
8?" Answer: 4

("8 shared into 2 sets is 4")



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Before we answer questions, this is what we consider.

**1**

**Can I do this  
in my head?**



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**2**

**Do I need to  
use a drawing  
or a jotting?**



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**3**

**Do I need an  
expanded or a  
standard method?**

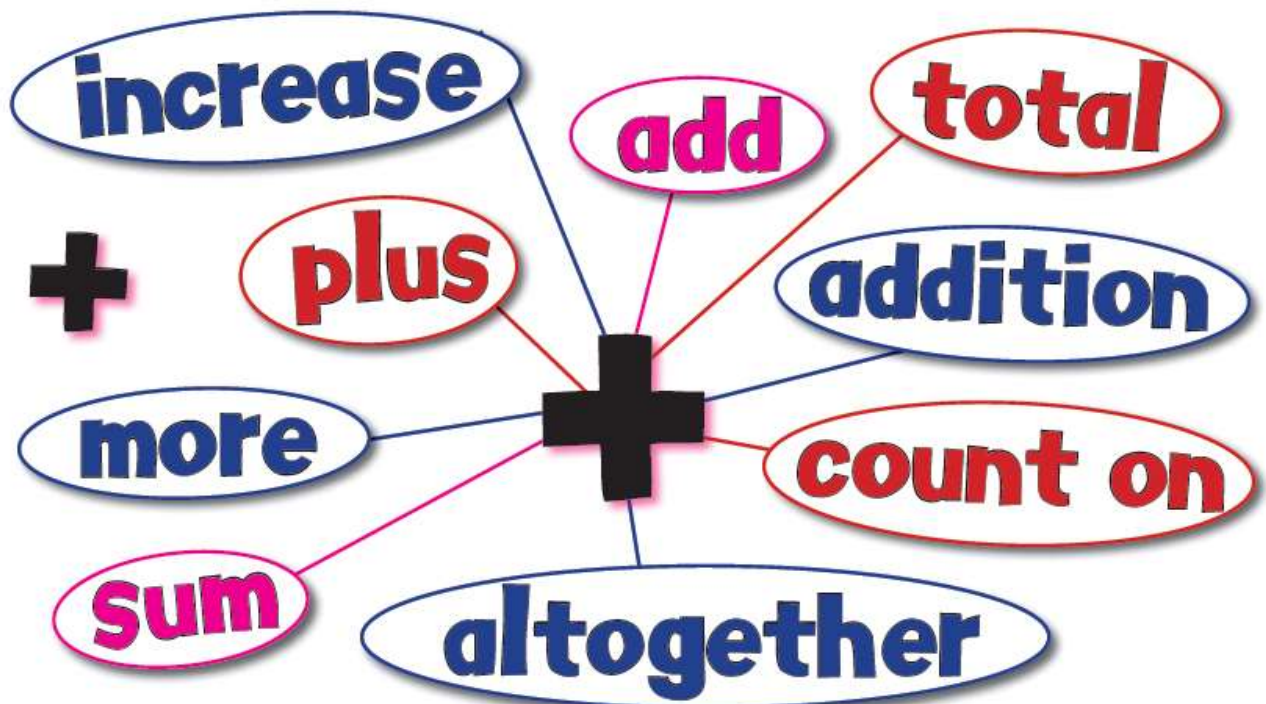


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# Addition Vocabulary

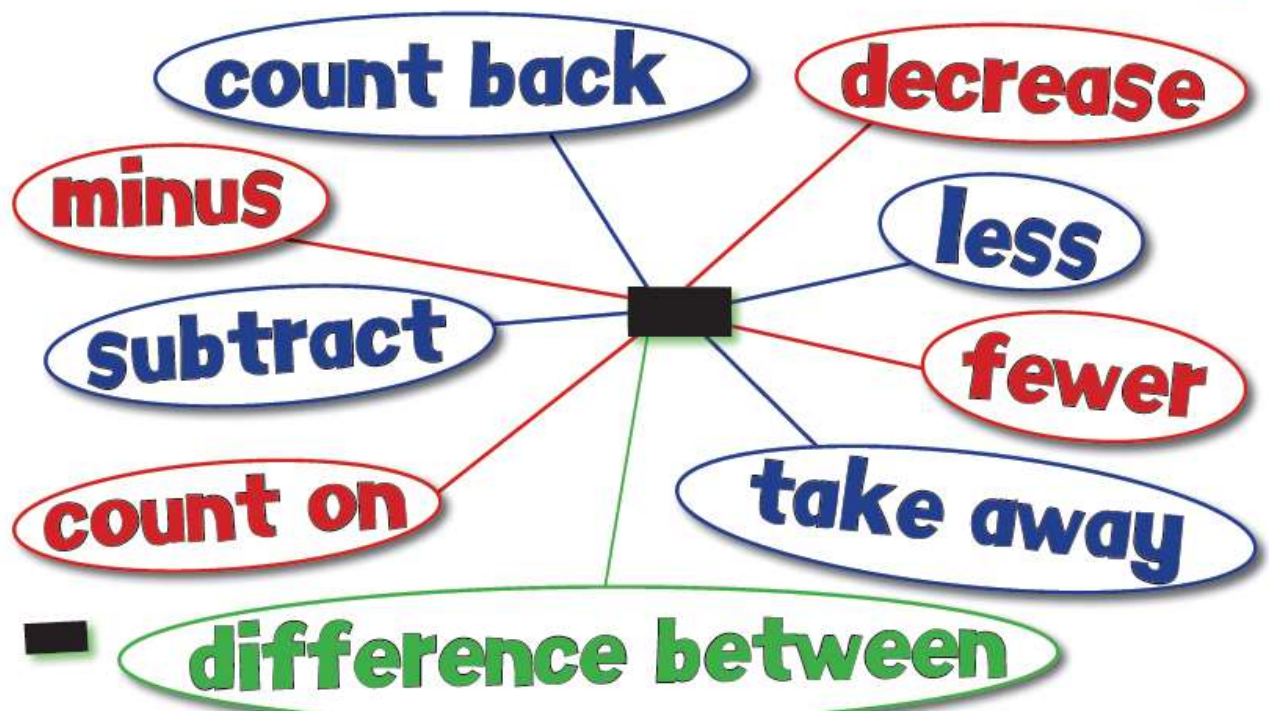


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# Subtraction Vocabulary



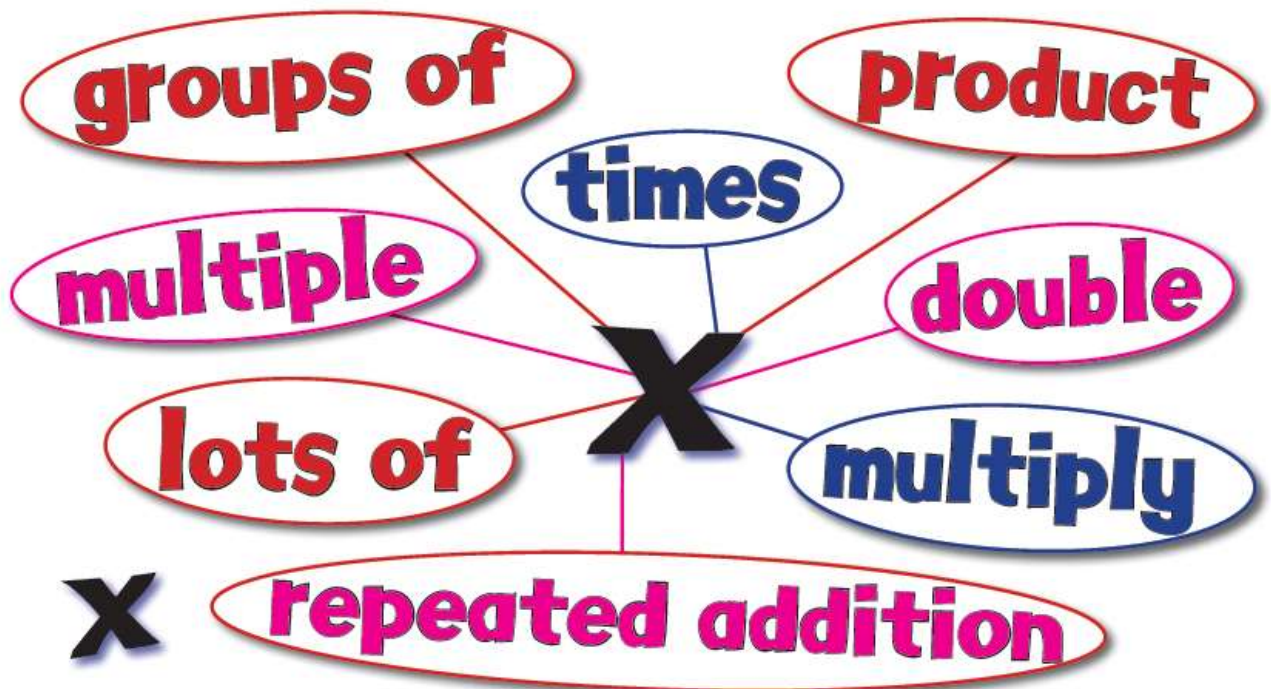
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# Multiplication Vocabulary

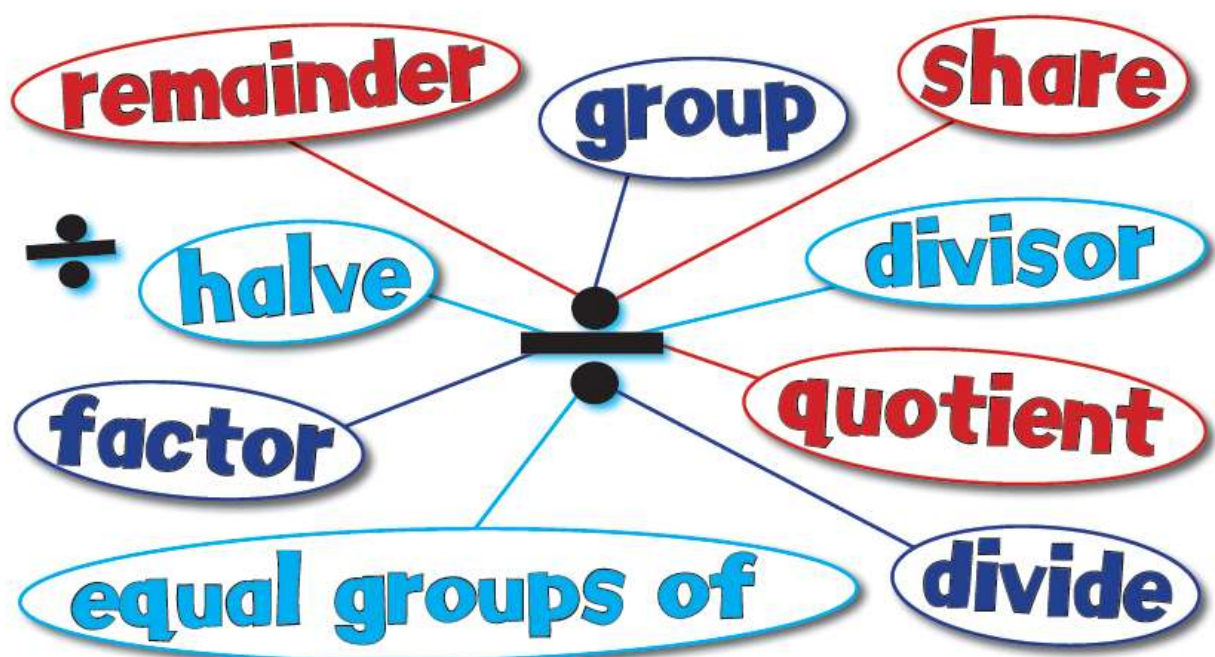


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# Division Vocabulary

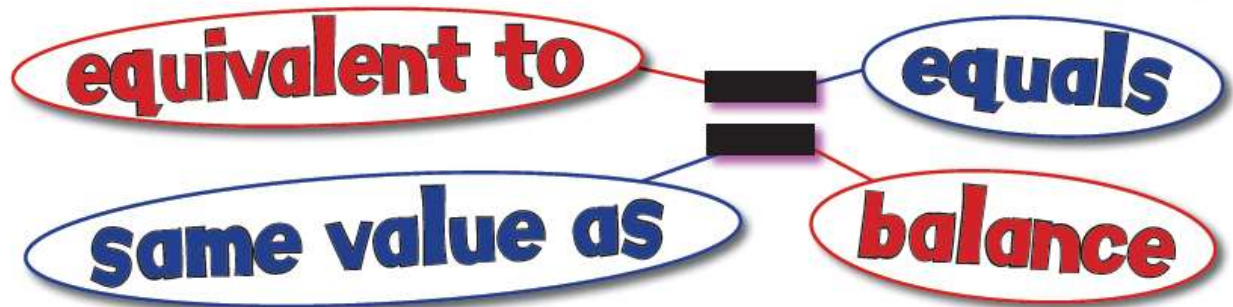


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# Calculation Vocabulary



**+** Addition

**X** Multiplication

Operations

**-** Subtraction

**÷** Division



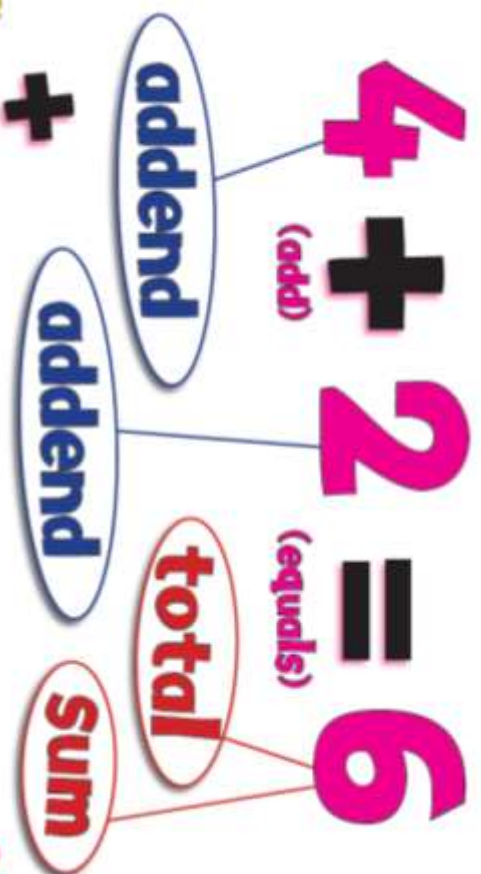
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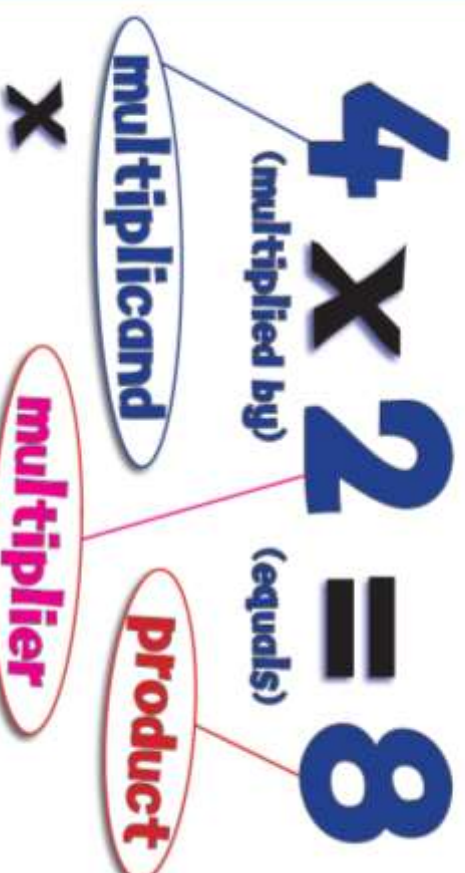




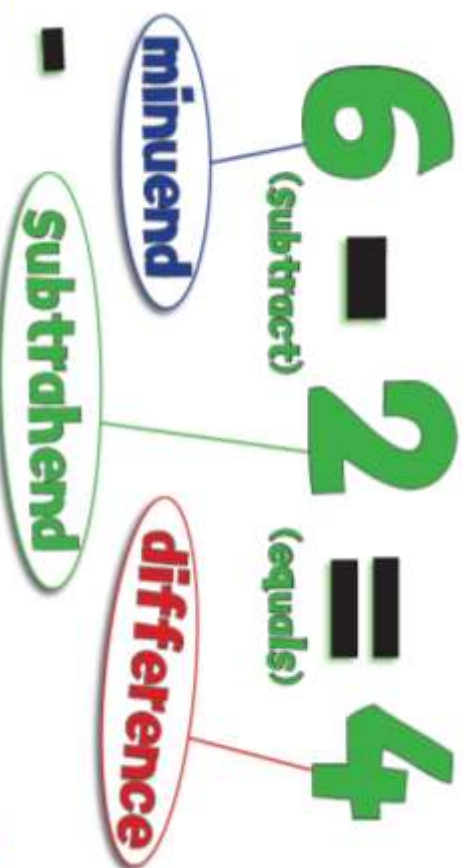
# Addition Calculation



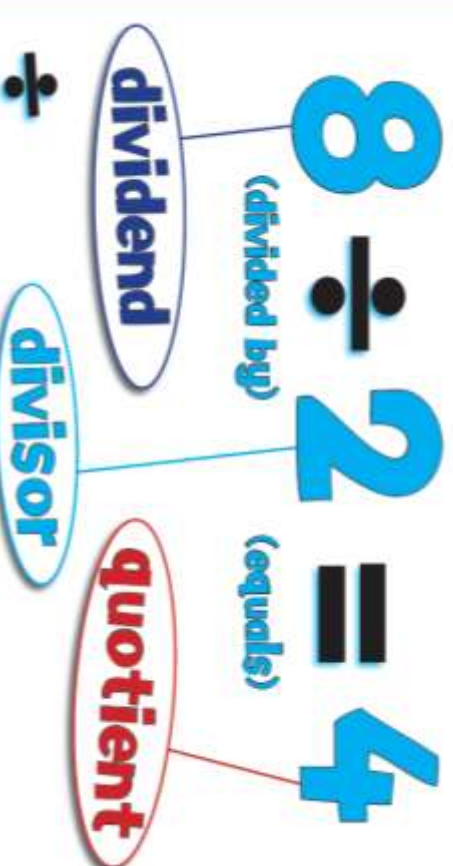
# Multiplication Calculation



# Subtraction Calculation



# Division Calculation





# Counting



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## MA2a: Counting On Hundreds

$$837 + 500 = 1337$$



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## MA2b: Counting On Thousands

$$7583 + 5000 = 12583$$



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## MA2b: Counting On Hundreds

$$4837 + 3000 = 7837$$



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## A5d: Partition Jot

$$4873 + 3762 = 8635$$

$$7000 + 1500 + 130 + 5$$



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## MA3: Number Bonds

3

$$43 + 9 + 7 + 21 = 80$$
$$50 \quad 30$$



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## MA5: Round & Adjust

4

$$345 + 298 = 643$$
$$345 + 300 - 2$$
$$645 - 2 = 643$$



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## MA4: Double & Adjust

$$45 + 46 = 91$$
$$45 + 45 + 1$$
$$90 + 1 = 91$$



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# Addition



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## A7d: Column Addition

$$\begin{array}{r}
 \text{T}^{\text{h}} \text{H} \text{T} \text{U} \\
 4873 \\
 + 3762 \\
 \hline
 8635 \\
 \hline
 11
 \end{array}$$



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## A7h: Column Addition

$$\begin{array}{r}
 \text{T} \text{U} \cdot \text{T}^{\text{h}} \\
 76.7 \\
 + 58.5 \\
 \hline
 135.2 \\
 \hline
 111
 \end{array}$$



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## A7g: Column Addition

$$\begin{array}{r}
 \text{U} \cdot \text{T}^{\text{h}} \text{H}^{\text{th}} \\
 5.65 \\
 + 3.29 \\
 \hline
 8.94 \\
 \hline
 1
 \end{array}$$



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## A7i: Column Addition

$$\begin{array}{r}
 \text{T} \text{U} \cdot \text{T}^{\text{h}} \text{H}^{\text{th}} \\
 \text{£}38.25 \\
 + \text{£}27.46 \\
 \hline
 \text{£}65.71 \\
 \hline
 11
 \end{array}$$



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# Subtraction



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## S11d: Column Subtraction

$$\begin{array}{r}
 \text{Th H T U} \\
 \begin{array}{r}
 4 \quad 1 \quad 9 \quad 13 \quad 1 \\
 \cancel{5} \quad \cancel{0} \quad \cancel{4} \quad 2 \\
 - 1 \quad 7 \quad 7 \quad 6 \\
 \hline
 3 \quad 2 \quad 6 \quad 6
 \end{array}
 \end{array}$$



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## S11g: Column Subtraction

$$\begin{array}{r}
 \text{T U. Tth Hth} \\
 \begin{array}{r}
 6 \quad 11 \quad 13 \quad 1 \\
 \cancel{7} \quad \cancel{2} \quad \cancel{4} \quad 3 \\
 - 4 \quad 7 \quad 8 \quad 5 \\
 \hline
 2 \quad 4 \quad 5 \quad 8
 \end{array}
 \end{array}$$



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## S11h: Column Subtraction

With Decimals

$$12.4 - 5.97 = 6.43$$

$$\begin{array}{r}
 \text{T U. Tth Hth} \\
 \begin{array}{r}
 0 \quad 11 \quad 13 \quad 1 \\
 \cancel{1} \quad \cancel{2} \quad \cancel{4} \quad 0 \\
 - 0 \quad 5 \quad 9 \quad 7 \\
 \hline
 0 \quad 6 \quad 4 \quad 3
 \end{array}
 \end{array}$$



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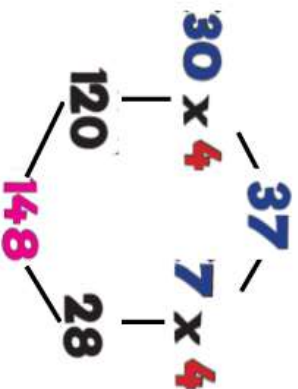
# Multiplication



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## MM3a: Partitioning

$$37 \times 4 = 148$$



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## MM3a: Partitioning

$$37 \times 4 = 148$$

$$120 + 28 = 148$$

(30 x 4) (7 x 4)

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## M6: Expanded Column

$$\begin{array}{r} 100 \ 10 \ 1 \\ 147 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ 160 \\ 400 \\ \hline 588 \end{array} \quad \begin{array}{l} (4 \times 7) \\ (4 \times 40) \\ (4 \times 100) \end{array}$$

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## M7: Column Multiplication

100 10 1

147

x 4

588

1 2

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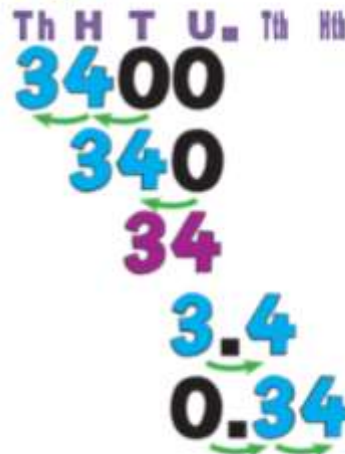
## MM1: Jump!

**x100**

**x10**

**+10**

**+100**



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## MM5e: Doubling

**Double 278 = 556**

$$400 + 140 + 16 = 556$$



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## MM5g: Doubling

**Double 3.7 = 7.4**

$$6 + 1.4 = 7.4$$



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## Year 4 – Multiplication

**Mx2: Table Facts**

**2x table**

2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84
86
88
90
92
94
96
98
100

**Mx10: Table Facts**

**10x table**

10
20
30
40
50
60
70
80
90
100

**Mx5: Table Facts**

**5x table**

5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

**Mx3: Table Facts**

**3x table**

3
6
9
12
15
18
21
24
27
30
33
36
39
42
45
48
51
54
57
60
63
66
69
72
75
78
81
84
87
90
93
96
99

**Mx4: Table Facts**

**4x table**

4
8
12
16
20
24
28
32
36
40
44
48
52
56
60
64
68
72
76
80
84
88
92
96
100

**Mx8: Table Facts**

**8x table**

8
16
24
32
40
48
56
64
72
80
88
96

**Mx6: Table Facts**

**6x table**

6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96

**Mx7: Table Facts**

**7x table**

7
14
21
28
35
42
49
56
63
70
77
84
91
98

**Mx9: Table Facts**

**9x table**

9
18
27
36
45
54
63
72
81
90
99

**Mx11: Table Facts**

**11x table**

11
22
33
44
55
66
77
88
99

**Mx12: Table Facts**

**12x table**

12
24
36
48
60
72
84
96

# Division



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## D10: Short Division

$$136 \div 4 = 34$$

$$\begin{array}{r} 34 \\ 4 \overline{) 136} \end{array}$$



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## D10c: Short Division

$$394 \div 6 = 65r4$$

$$\begin{array}{r} 65r4 \\ 6 \overline{) 394} \end{array}$$



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## D10d: Short Division

$$591 \div 3 = 197$$

$$\begin{array}{r} 197 \\ 3 \overline{) 591} \end{array}$$



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