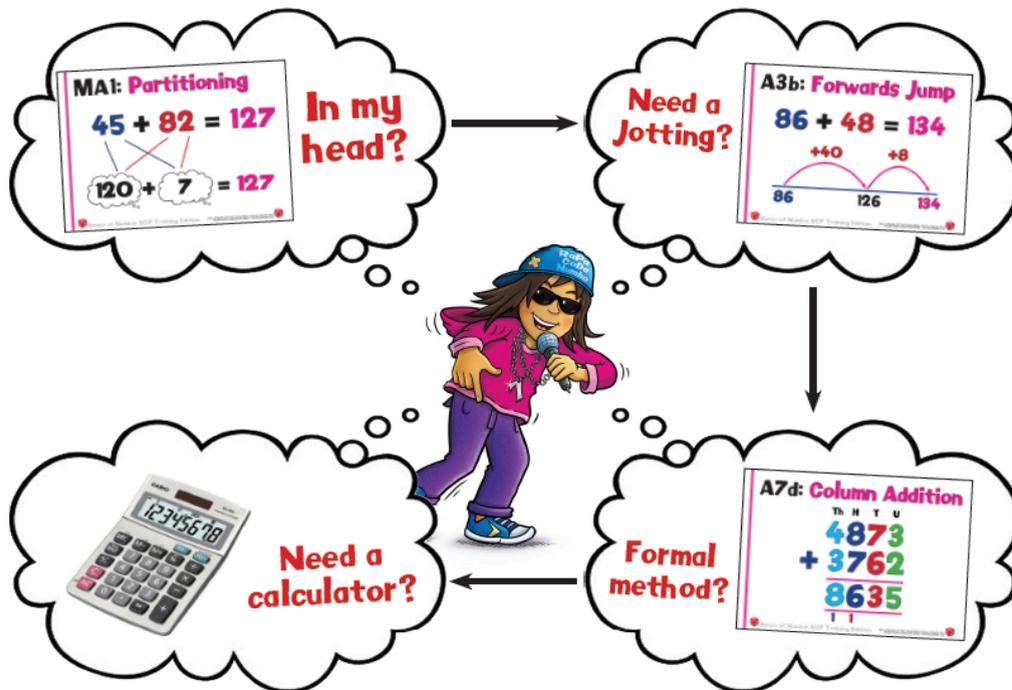




Toner Avenue Visual Calculation Policy: Year 6

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



Before we answer questions, this is what we consider.

- 1 Can I do this in my head?**
- 2 Do I need to use a drawing or a jotting?**
- 3 Do I need an expanded or a standard method?**

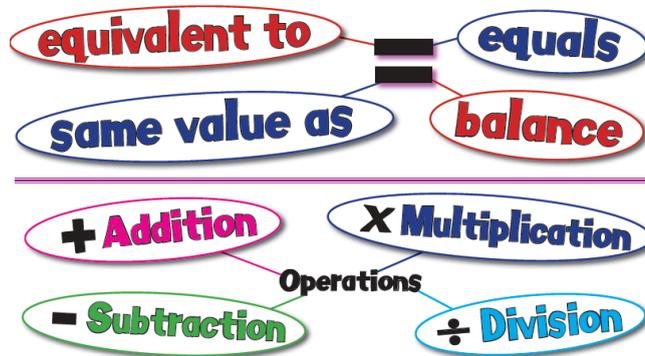
And do I need any equipment?



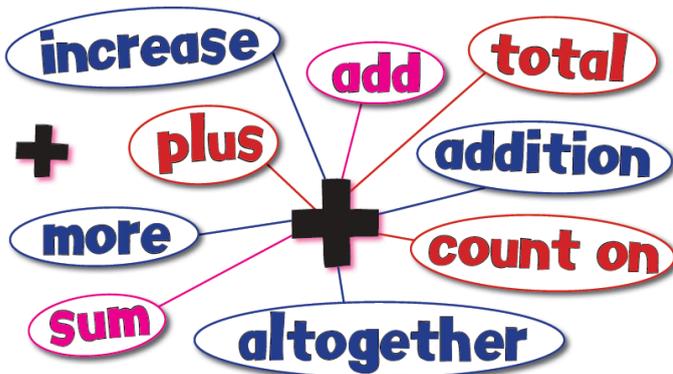
Toner Avenue Visual Calculation Policy: Year 6

We use rich and varied vocabulary

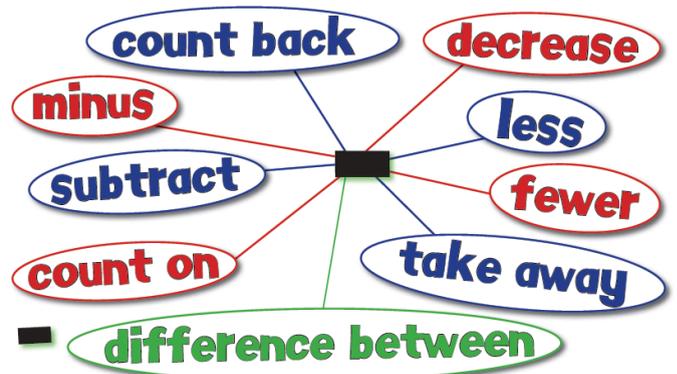
Calculation Vocabulary



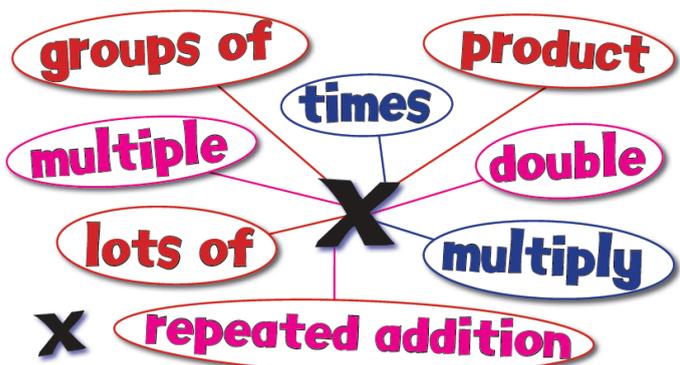
Addition Vocabulary



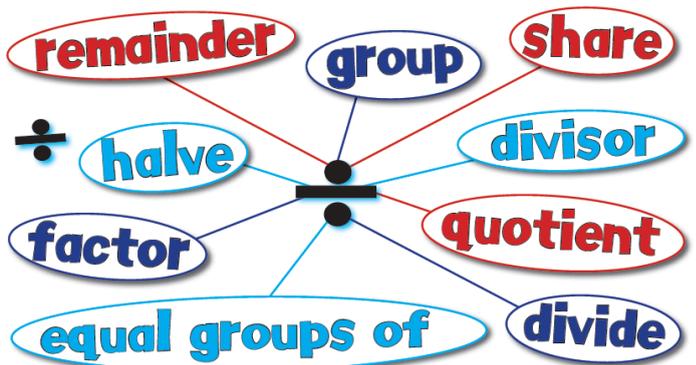
Subtraction Vocabulary



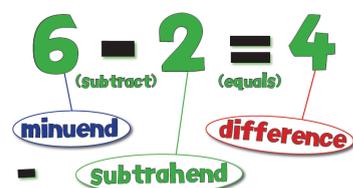
Multiplication Vocabulary



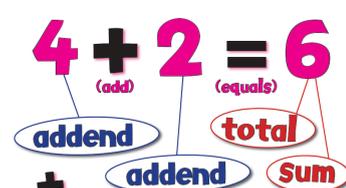
Division Vocabulary



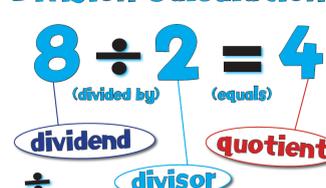
Subtraction Calculation



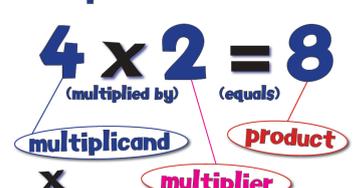
Addition Calculation



Division Calculation



Multiplication Calculation



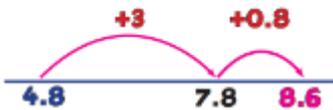


Counting

Year 6 - Counting and Equipment

A3f: Decimal Jump

$$4.8 + 3.8 = 8.6$$



A4f: Partitioning

$$4.8 + 3.8 = 8.6$$

$$\begin{array}{r} 4 + 3 = 7 \\ 0.8 + 0.8 = 1.6 \\ \hline 8.6 \end{array}$$

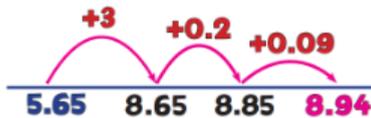
A5f: Partition Jot

$$4.8 + 3.8 = 8.6$$

$$\begin{array}{r} 7 + 1.6 \end{array}$$

A3g: Decimal Jump

$$5.65 + 3.29 = 8.94$$



A5g: Partition Jot

$$5.65 + 3.29 = 8.94$$

$$8 + 0.8 + 0.14$$

A5h: Partition Jot

$$76.7 + 58.5 = 135.2$$

$$120 + 14 + 1.2$$

A5i: Partition Jot

$$£38.25 + £27.46 = £65.71$$

$$£65.00 + £0.71$$

MA1: Partitioning

$$4.73 + 2.21 = 6.94$$

$$6 + 0.9 + 0.04 = 6.94$$

MA3: Number Bonds

$$£4.56 + £3.27 + £1.44 = £9.27$$

$$£6.00 + £3.27$$

MA4: Double & Adjust

$$45 + 46 = 91$$

$$45 + 45 + 1$$

$$90 + 1 = 91$$

MA5: Round & Adjust

$$4645 + 1996 = 6641$$

$$4645 + 2000 - 4$$

$$6645 - 4 = 6641$$

MA2a: Counting On

Ten Thousands

$$43,826 + 30,000 = 73,826$$



MA2b: Counting On

Millions

$$5,763,947 + 4,000,000 = 9,763,947$$





Addition

Year 6 - Addition

A7e: Column Addition

$$\begin{array}{r} \text{Hth Tth Th H T U} \\ 787567 \\ + 446278 \\ \hline 1233845 \\ \hline \text{1 1 1 1 1} \end{array}$$

A7i: Column Addition

$$\begin{array}{r} \text{TU . Tth Hth Money} \\ \text{£}38.25 \\ + \text{£}27.46 \\ \hline \text{£}65.71 \\ \hline \text{1 1} \end{array}$$

A7j: Column Addition

$$73.4 + 5.67 = 79.07$$
$$\begin{array}{r} \text{TU . Tth Hth} \\ 73.40 \\ + 05.67 \\ \hline 79.07 \\ \hline \text{1} \end{array}$$



Subtraction

Year 6 - Subtraction

S11e: Column Subtraction

$$\begin{array}{r}
 \overset{3}{7} \overset{1}{4} \overset{7}{2} \overset{12}{8} \overset{1}{3} 1 \\
 - 427358 \\
 \hline
 315473
 \end{array}$$

S11g: Column Subtraction

	T	U.	Tth	Hth
	6	11	13	1
	7	2	.	4 3
-	4	7	.	85
	<u>2</u>	<u>4</u>	.	<u>58</u>

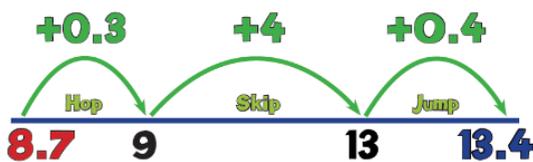
S11h: Column Subtraction

With Decimals

$$12.4 - 5.97 = 6.43$$

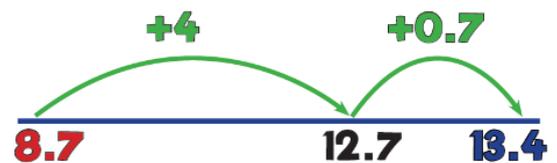
	T	U.	Tth	Hth
	0	11	13	1
	1	2	.	4 0
-	0	5	.	97
	<u>0</u>	<u>6</u>	.	<u>43</u>

S8f: Decimal T-J!



$$13.4 - 8.7 = 4.7$$

S9f: 1s Jump, Tenths Jump!



$$13.4 - 8.7 = 4.7$$

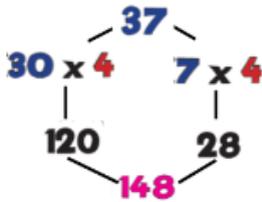


Multiplication

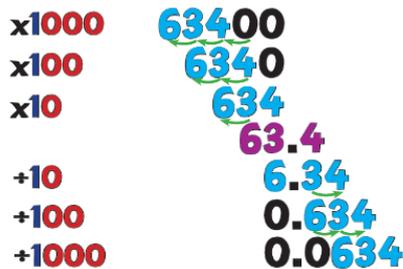
Year 6 - Multiplication

MM3a: Partitioning

$$37 \times 4 = 148$$



MM1a: Jump!



MM3a: Partitioning

$$37 \times 4 = 148$$

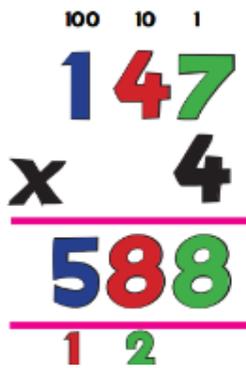


MM5g: Doubling

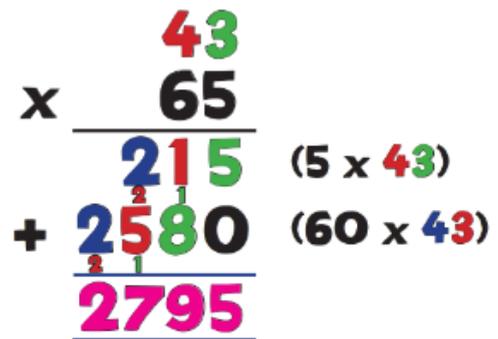
$$\text{Double } 3.7 = 7.4$$



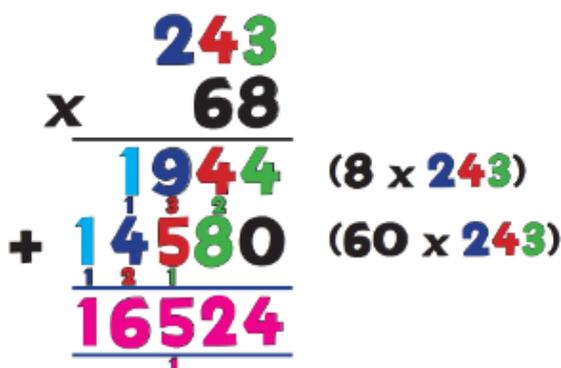
M7: Column Multiplication



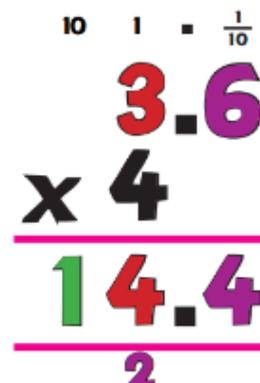
M9: Long Multiplication



M9a: Long Multiplication



M9c: Column Multiplication





M9c: Column Multiplication

$$\begin{array}{r}
 \begin{array}{c} 10 \quad 1 \quad \frac{1}{10} \\ 3.6 \\ \times 4 \\ \hline 14.4 \\ \hline 2 \end{array}
 \end{array}$$

M9e: Column Multiplication

$$\begin{array}{r}
 \begin{array}{c} 10 \quad 1 \quad \frac{1}{10} \quad \frac{1}{100} \\ 7.38 \\ \times 6 \\ \hline 44.28 \\ \hline 4 \quad 2 \quad 4 \end{array}
 \end{array}$$

M9f: Long Multiplication Column Decimals

$$\begin{array}{r}
 \begin{array}{c} 10 \quad 1 \quad \frac{1}{10} \quad \frac{1}{100} \\ 24.3 \\ \times 2.5 \\ \hline 12.15 \quad (0.5 \times 24.3) \\ + 48.60 \quad (2 \times 24.3) \\ \hline 60.75 \end{array}
 \end{array}$$

M9g: Long Multiplication Column

$$\begin{array}{r}
 \begin{array}{c} 3786 \\ \times 48 \\ \hline 30288 \quad (8 \times 3786) \\ + 151440 \quad (40 \times 3786) \\ \hline 181728 \end{array}
 \end{array}$$

Mx2: Table Facts



2x table

Mx5: Table Facts



5x table

Mx10: Table Facts



10x table

Mx3: Table Facts



3x table

Mx4: Table Facts



4x table

Mx8: Table Facts



8x table

Mx6: Table Facts



6x table

Mx7: Table Facts



7x table

Mx9: Table Facts



9x table

Mx11: Table Facts



11x table

Mx12: Table Facts



12x table



Division

Year 6 - Division

D10e: Short Division

$$5978 \div 7 = 854$$

$$\begin{array}{r} 854 \\ 7 \overline{) 5978} \end{array}$$

D10f: Short Division

Different Remainders

$$\begin{array}{r} 169.2 \\ 5 \overline{) 846.0} \end{array}$$

$$846 \div 5$$

$$\begin{array}{r} 169r1 \\ 5 \overline{) 846} \end{array}$$

$$\begin{array}{r} 169\frac{1}{5} \\ 5 \overline{) 846} \end{array}$$

D10i: Short Division

$$87.5 \div 7 = 12.5$$

$$\begin{array}{r} 12.5 \\ 7 \overline{) 87.5} \end{array}$$

D12: Long Division

Short Division Method

$$\begin{array}{r} 26r21 \\ 37 \overline{) 983} \end{array}$$