



Elvington CE Calculation Policy

Addition

EYFS

Counting songs and reciting number sequences

Counting sets of objects reliably

Counting on to add 2 single digit numbers

Recording work pictorially.



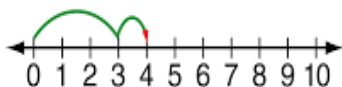
Recording work numerically



Using a number line

$3 + 1 = 4$

$3 + 1 = 4$



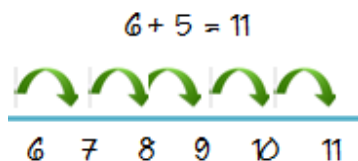
Key Stage 1

Year 1

Addition can be done in any order.

$3 + 2 = 2 + 3$

Encourage children to start with biggest number. Blank number lines to add 2 single digit numbers.



Year 2

Blank number lines to add 2 digit numbers. Partitioning into tens and ones

$42 + 16 =$
 $40 + 10 = 50$
 $2 + 6 = 8$
 $50 + 8 = 58$

Formal vertical addition of 2 2-digit numbers.

Formal vertical addition of 2 2-digit numbers, moving on to carrying of tens

$$\begin{array}{r} 38 \\ + 93 \\ \hline 131 \\ \hline 1 \end{array}$$

Lower Key Stage 2

Year 3

Partitioning into hundreds, tens, units and adding mentally

$249 + 116 = 365$
 $200 + 100 = 300$
 $40 + 10 = 50$
 $9 + 6 = 15$
 $300 + 50 + 15 = 365$

Formal vertical column method of 2 3-digit numbers moving onto carrying.

$86 + 57 =$

$$\begin{array}{r} 86 \\ + 57 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ 130 \\ \hline 143 \end{array} \quad \begin{array}{l} (6 + 7) \\ (80 + 50) \end{array}$$

143

Year 4

Formal vertical column method of 2 3-digit numbers moving onto carrying.

$$\begin{array}{r} 186 \\ + 247 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ 120 \\ 300 \\ \hline 433 \end{array} \quad \begin{array}{l} (6 + 7) \\ (80 + 40) \\ (100 + 200) \end{array}$$

433

Upper Key Stage 2

Year 5/6

More emphasis on speed and accuracy.

Column method with increasingly larger numbers including money and decimals

$457 + 1294 =$

$$\begin{array}{r} 457 \\ + 1294 \\ \hline \end{array}$$

1751

11

Decimal point line up like buttons on a shirt

$150.54 + 64.29 =$

$$\begin{array}{r} 150.54 \\ + 64.29 \\ \hline 223.83 \end{array}$$

111



EYFS

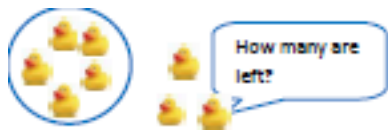
Number rhymes and reciting number sequences

Finding 1 less (to 20)

Counting back to subtract 2 single digit numbers.



Removing objects from a group.



Recording work pictorially.



Recording work numerically

$$7 - 3 = 4$$

Key Stage 1

Year 1

Counting back in 1s, 2s, 5s, 10s orally and using a 100 square.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Removing objects from sets. Finding the difference by counting on.

The difference between 11 and 6

$$6 + 5 = 11$$



Blank number lines to subtract single digit numbers.

$$11 - 5 = 6$$



Year 2

Blank number lines to subtract 2 digit numbers.

Partitioning into tens and ones.

$$\bullet 74 - 27 = \quad 74 - 20 = 54$$

$$54 - 7 = 47$$

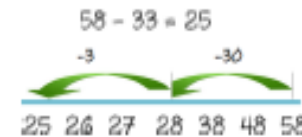
Formal vertical subtraction 2 2-digit numbers, working towards stealing a ten.

$$\begin{array}{r} 6 \cancel{7} 12 \\ - 56 \\ \hline 16 \end{array}$$

Lower Key Stage 2

Year 3

Blank number lines to subtract 3 digit numbers using larger jumps.



Partitioning practically using place value equipment.

$$156 - 34$$

$$100 + 50 + 6$$

$$- 30 + 4$$

$$100 + 20 + 2 = 122$$

Formal vertical subtraction working towards stealing a ten and a hundred.

$$156 - 38 =$$

$$\begin{array}{r} 1 \cancel{5} 16 \\ - 38 \\ \hline 118 \end{array}$$

Year 4

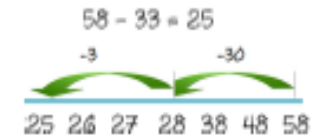
Column method to subtract 3 and 4 digit numbers.

Upper Key Stage 2

Year 5

More emphasis on speed and accuracy.

Blank number lines to subtract larger numbers using larger jumps.



Year 6

Column method with increasingly larger numbers including money and decimals.

(Decimal point line up like buttons on a shirt)

$$350.54 + 164.29 =$$

$$195.25$$

$$\begin{array}{r} \cancel{2}3 \cancel{1}5 \cancel{9} \cancel{4} \\ - 164.29 \\ \hline 195.25 \end{array}$$



EYFS

Songs with counting jumps.

(Ants go marching)



Identifying sets of objects which are the same size.

Combining sets of objects which are the same size.



Grouping objects into 2s and 10s.

Doubling using objects.



Using a number line to count in 2s.

Key Stage 1

Year 1

Practical methods leading to pictorial recording.



Counting in 2s, 5s and 10s

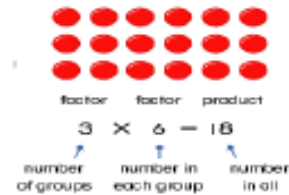
Repeated addition

Year 2

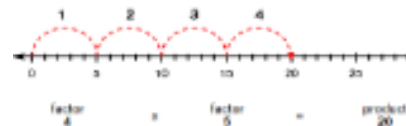
Repeated addition

$$2 + 2 + 2 = 6 \quad 3 \times 2 = 6$$

Dot array



Using number lines.



Horizontal multiplication.

$$2 \times 3 = 6$$

****Year 2 children should know their 2, 3, 5 and 10 times tables**

Lower Key Stage 2

Year 3

Children should know their 2, 3, 4, 5, 8 and 10 times tables.

Short multiplication

$$\begin{array}{r}
 24 \times 6 \text{ becomes} \\
 \begin{array}{r}
 24 \\
 \times 6 \\
 \hline
 144 \\
 \hline
 \end{array} \\
 \text{Answer: 144}
 \end{array}$$

****Year 3 children should know their multiplication and division facts for 3, 4 and 8 times tables**

Year 4

Children should know all their times tables up to 12x12

Multiplication of a 2-digit and 3-digit number by a 1-digit number formally.

24 x 6 becomes

$$\begin{array}{r}
 24 \\
 \times 6 \\
 \hline
 144 \\
 \hline
 \end{array}$$

Answer: 144

342 x 7 becomes

$$\begin{array}{r}
 342 \\
 \times 7 \\
 \hline
 2394 \\
 \hline
 \end{array}$$

Answer: 2394

****Year 4 children should know their multiplication and division facts up to 12x12**

Upper Key Stage 2

Year 5/6

Short multiplication for 2, 3 and 4-digit by 1-digit multiplication.

$$\begin{array}{r}
 2741 \times 6 \text{ becomes} \\
 \begin{array}{r}
 2741 \\
 \times 6 \\
 \hline
 16446 \\
 \hline
 \end{array} \\
 \text{Answer: 16446}
 \end{array}$$

Long multiplication for 2 and 3 digits by 2-digit numbers.

$$\begin{array}{r}
 124 \times 26 \text{ becomes} \\
 \begin{array}{r}
 124 \\
 \times 26 \\
 \hline
 744 \\
 2480 \\
 \hline
 3224 \\
 \hline
 \end{array} \\
 \text{Answer: 3224}
 \end{array}$$

Beginning to use estimation and approximation to determine accuracy.

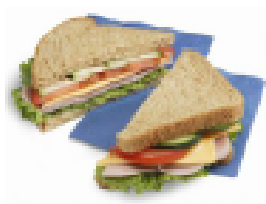


EYFS

Sharing objects fairly between children.



Cutting objects in half. How many pieces are there?



Counting backwards in 2s and 10s.

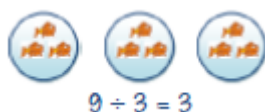
Halving groups of objects.



Key Stage 1

Year 1

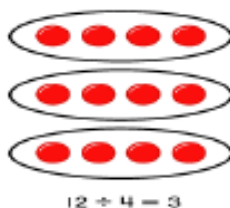
Practical methods leading to pictorial recording



Use of 2,5 and 10 times table facts to support simple division calculations. (Shared by)

Year 2

Dot arrays



Number lines

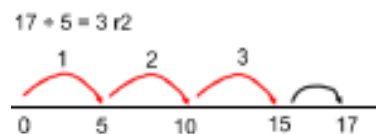
How many 5s are in 25?



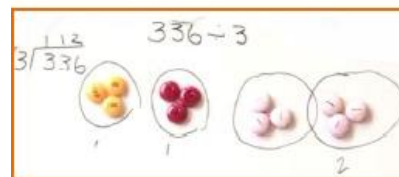
Lower Key Stage 2

Year 3

Use of number lines (with remainders)



Bus stop



Year 4

Bus stop method



Upper Key Stage 2

Year 5/6

Bus stop method

432 ÷ 5 becomes

$$\begin{array}{r} 86 \text{ r}2 \\ 5 \overline{) 432} \\ \underline{40} \\ 32 \\ \underline{30} \\ 2 \end{array}$$

Answer: 86 remainder 2

Long division for up to 4-digit numbers by 2-digit numbers.

547 ÷ 23 =

$$\begin{array}{r} 23 \text{ r}18 \\ 23 \overline{) 547} \\ \underline{46} \\ 87 \\ \underline{69} \\ 18 \end{array}$$

547 ÷ 23 = 23 r18

Short division for up to 4 digit numbers by 2-digits, answering as a remainder, decimal or fraction.

$$\begin{array}{r} 496 \div 11 \text{ becomes} \\ 45 \text{ r}1 \\ 11 \overline{) 496} \\ \underline{44} \\ 56 \\ \underline{55} \\ 1 \end{array}$$

Answer: 45 $\frac{1}{11}$