

Progression in written calculation strategies for multiplication

(Examples indicate end of year expectations)

# Year 1

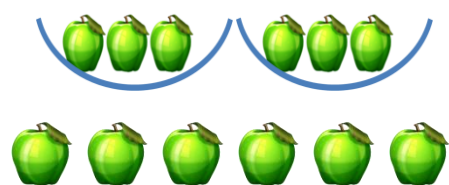
Statutory Guidance

solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Possible representations

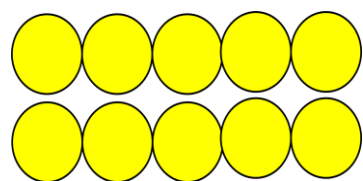
e.g.  $2 \times 3 =$

There are two bowls with three apples in each. How many apples are there altogether?



Non- Statutory guidance

They make connections between arrays, number patterns, and counting in twos, fives and tens.



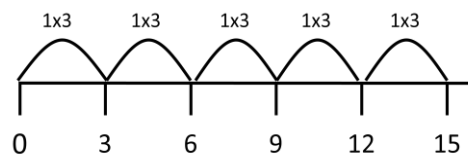
# Year 2

Statutory Guidance

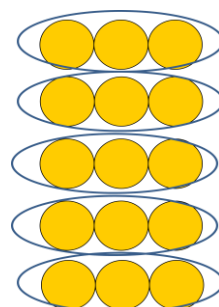
solve problems involving multiplication using materials, arrays, repeated addition, mental methods, and multiplication facts, including problems in contexts.

Possible representations

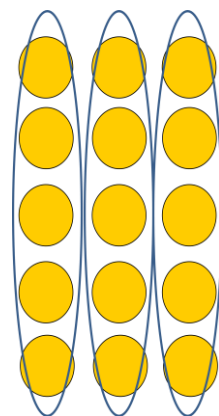
e.g.  $5 \times 3 =$



$5 \times 3 =$



$3 \times 5 =$



Multiplication facts include:  
2,5 and 10

# Year 3

Statutory Guidance

Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

e.g.  $34 \times 8 =$

x	30	4	
8	240	32	= 272

Multiplication facts include: 2,3,4,5,8 and 10

# Year 4

Statutory Guidance

Multiply two-digit and three-digit numbers by a one digit number using the formal written layout.

e.g.  $347 \times 7 =$

$$\begin{array}{r} 347 \\ \times 7 \\ \hline 2429 \\ 34 \end{array}$$

Multiplication facts up to  $12 \times 12$

# Year 5

Statutory Guidance

Multiply numbers up to 4 digits by a one – or two-digit number using the formal written method,

e.g.  $2741 \times 6 =$

$$\begin{array}{r} 2741 \\ \times 6 \\ \hline 16446 \\ 42 \end{array}$$

including long multiplication for two-digit numbers

$$\begin{array}{r} 2 \\ 24 \\ \times 16 \\ \hline 144 \\ 240 \\ \hline 384 \end{array}$$

# Year 6

Statutory Guidance

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.

e.g.  $2741 \times 66 =$

$$\begin{array}{r} 42 \\ 2741 \\ \times 66 \\ \hline 16446 \\ 164460 \\ \hline 180906 \\ 11 \end{array}$$

From Fractions section:

Multiply one-digit numbers with up to two decimal places by whole numbers

$$\begin{array}{r} 2.41 \\ \times 6 \\ \hline 14.46 \\ 2 \end{array}$$