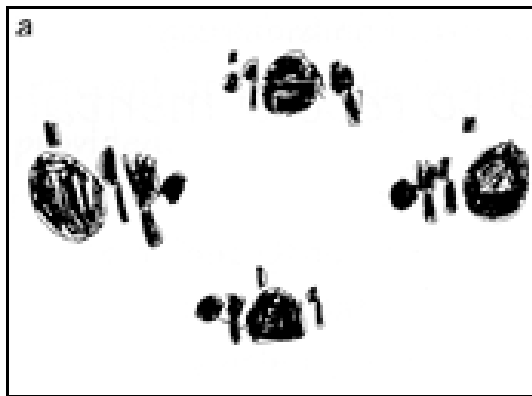


Calculation Policy- Multiplication

The following methods of multiplication are those that the majority of children in each year group should be using. Children may use different strategies if they are not secure in previously taught strategies. If children are able and confident mathematicians they may be introduced to some of the strategies earlier.

Y1

Children will experience equal groups of objects and will count in 2s and 10s and begin to count in 5s. They will use number tracks/number lines to help them count in steps. They will work on practical problem solving activities involving equal sets or groups.



They will be introduced to arrays as a way of showing multiplication.



$$3 \times 2 = 6$$

$$2 \times 3 = 6$$

Y2

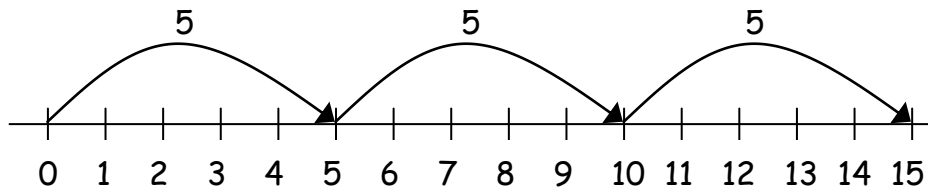
Children will develop their understanding of multiplication and use jottings to support calculation:

Repeated addition

3 times 5 is $5 + 5 + 5 = 15$ or 3 lots of 5 or 5×3

Repeated addition can be shown easily on a number line:

$$5 \times 3 = 5 + 5 + 5$$

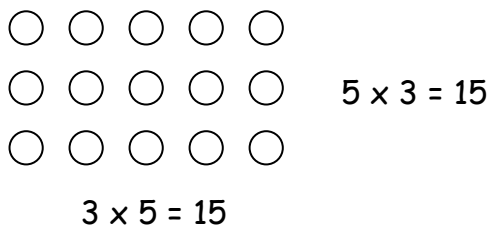


Commutativity

Children should know that 3×5 has the same answer as 5×3 . This can be demonstrated through an array.

Arrays

Children should be able to model a multiplication calculation using an array.



Y3

Children will multiply a two digit number by a one digit number by partitioning.

Partitioning

$$\begin{array}{l} 13 \times 5 = \\ 10 \times 5 = 50 \\ 3 \times 5 = \underline{15} \\ \quad 65 \end{array}$$

They will then move onto column multiplication to multiply a two digit number by a one digit number.

$$\begin{array}{r} 13 \\ \times 5 \\ \hline 15 \\ + 50 \\ \hline 65 \end{array}$$

Y4

Children will use short multiplication to multiply numbers with up to four digits by a one digit number.

$$\begin{array}{r} 2127 \\ \times \quad 3 \\ \hline 6381 \\ \hline 2 \end{array}$$

Y5

Children will continue to use the short method of multiplication from year four to multiply numbers with an increasing number of digits (including decimals) by a one digit number.

They will also use the expanded method to multiply a two digit number by a two or three digit number.

$$\begin{array}{r} 127 \\ \times 34 \\ \hline 508 \\ 210 \text{ (T} \times \text{U)} \\ 600 \text{ (T} \times \text{T)} \\ 3000 \text{ (T} \times \text{H)} \\ \hline 4318 \end{array}$$

Then they will move onto

$$\begin{array}{r} 127 \\ \times 34 \\ \hline 508 \\ 3810 \\ \hline 4318 \end{array}$$

Y6

By year 6, children should be familiar with the range of methods of multiplication previously taught. They should use these methods competently and apply the appropriate method when solving problems.