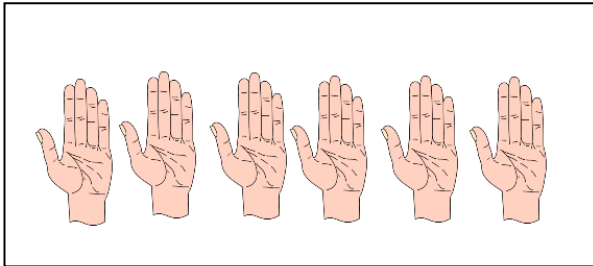


PROGRESSION THROUGH CALCULATION FOR MULTIPLICATION

Stage 1

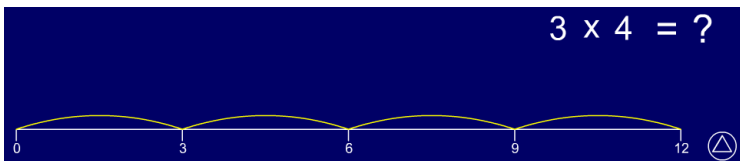
Children will use resources to make equal sets of objects. They will orally count in different multiples making links with the equal sets they have made.

5, 10, 15, 20, 25, 30



Stage 2

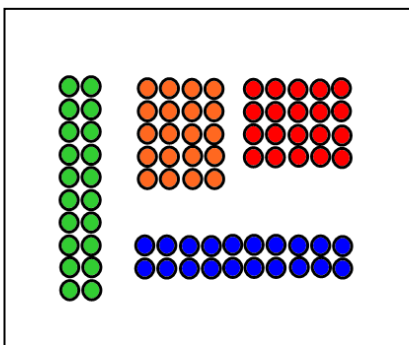
Children will begin to make jumps along a number line linked with picture representations.



XXX XXX XXX XXX

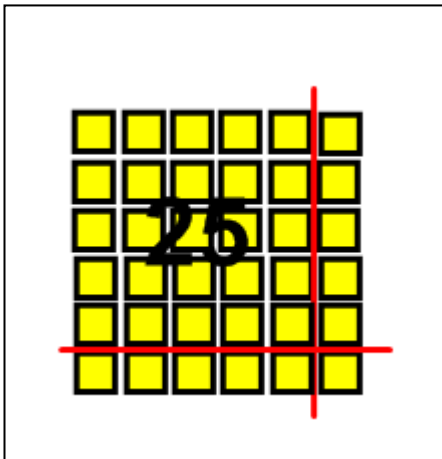
Stage 3

Children will begin to use arrays to organise groups and show multiplication as repeated addition.



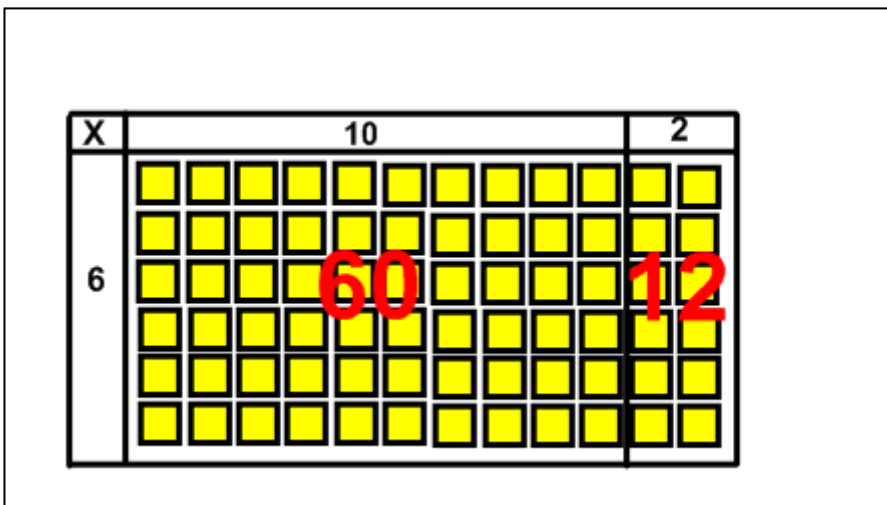
Stage 4

Children will explore arrays for larger numbers. They will look for 'friendly' numbers to help them to calculate efficiently.



Stage 5

Children will use the grid method to multiply using larger numbers. Make the link between that and arrays. Once the link is made, the array no longer needs to be drawn.



Stage 6

Children will begin to use the expanded method for short multiplication. Make links to the grid method.

x	10	2
6	60	12

$$\begin{array}{r} 12 \\ \times 6 \\ \hline 60 \text{ (6 x 10)} \\ + 12 \text{ (6 x 2)} \\ \hline 72 \end{array}$$

Stage 7

Children will use the compact method for short multiplication.

$$\begin{array}{r} 12 \\ \times 6 \\ \hline 72 \\ \hline 1 \end{array}$$

Stage 8

Children will use the expanded method for long multiplication.

$$\begin{array}{r} 12 \\ \times 18 \\ \hline 16 \text{ (8 x 2)} \\ 80 \text{ (8 x 10)} \\ 20 \text{ (10 x 2)} \\ + 100 \text{ (10 x 10)} \\ \hline 216 \end{array}$$

Stage 9

Children will use the compact method for long multiplication.

$$\begin{array}{r} 12 \\ \times 18 \\ \hline 96 \\ + 120 \\ \hline 216 \end{array}$$

Multiplication vocabulary

All vocabulary can be used throughout all year groups and a range must be used. Posters to display vocabulary need be accessible for children in all classrooms.

Counting, Steps, Each, Doubling, Scaling, Times, Lots of, Groups of, Multiply, Multiple, Repeated addition, Array, Row, Column, Double, Product