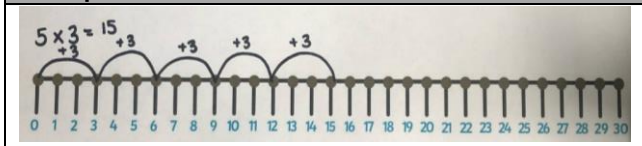
Multiplication

Step 1	Examples	Step 2	Examples	Step 3
Concrete Multiplication The first step requires the children to use objects or images to count in steps Language should be extended to: ____ lots of _____ Use of fingers is encouraged as this is a constantly available resource.	There are 3 sweets in one bag. How many sweets are there in 5 bags?  5 x 2 = 10 	**Arrays** This step requires the children to use objects or pictures in arrays. Children should then move onto creating their own array representations using circles or dots.	3 x 2 = 6 2 x 3 = 6  6 x 3 = 18 3 x 6 = 18 	**Repeated addition on number line** This step requires the children to show repeated addition using number lines. **Example** 

Step 4	Examples	Step 5	Examples	Step 6	Examples
Partitioning This step requires the children to partition numbers before multiplying each part of the number before adding the partial results. This method can be extended to include decimals.	**46 x 4 = 144** 40 x 4 = 120 6 x 4 = 24 144 34.6 x 6= 30.0 x 6 = 180.0 4.0 x 6 = 24.0 0.6 x 6 = 3.6 207.6	**Grid Method** This step requires the children partition the numbers and place them into a grid. This method should be used for multiplication by one and two digit numbers and can be extended to include decimals.	**25x5 = 125** x | 5 20 | 100 5 | 25 | 125	**Extended column method** This step requires the children to set the calculation out on in column and then multiply each partition together before adding the partial calculation together. Children should describe what they do by referring to the actual values of the digits in the columns. For example, the step in 38 × 7 is 'thirty multiplied by seven', not 'three times seven', although the relationship 3 × 7 should be stressed. This method should be extended to multiplication by two digit numbers and multiplication of decimals.	**38 x7= 266** 38 X 7 56 210 **286 x 29 = 8294** 286 X 29 54 720 1800 120 1600 4000 8294

Step 7	Examples	Step 8	Examples
Short Method for x O This step requires the children to use carrying to shorten the method. This method can be used effectively for multiplication of decimals.	**38 x 7 = 266** 38 X 7 266 5 **237 x 4 = 948** 237 X 4 948 1 2	**Short Method for x TO** This method requires the children to multiply the larger number by the ones and then the larger number by the tens before adding the two numbers together. Consideration needs to be given as to how carried numbers are clear.	612 x 24 = 14688 612 X 24 2448 + 12240 **14688**

Multiplication