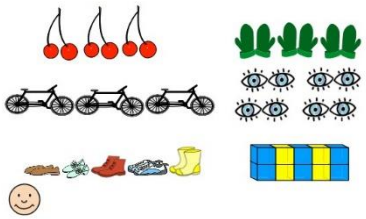
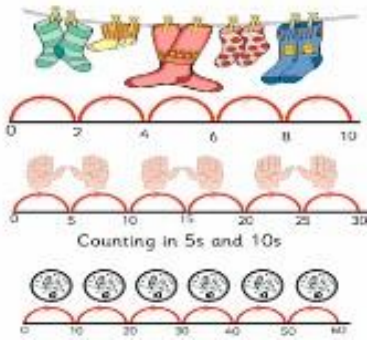
The Journey through Multiplication

Children start by counting in sets e.g. of twos or of tens.

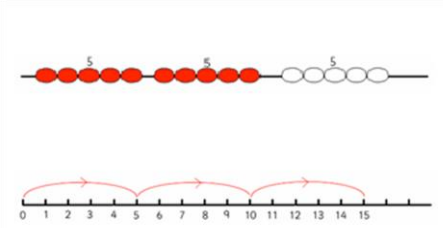


How many pairs of shoes? How many shoes? 2, 4, 6 etc

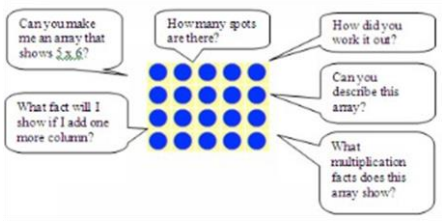
The number line image should be developed alongside the practical counting and problem solving that children engage in and not as a separate, abstract idea. The number line image will support e.g. year 2's work on developing the repeated addition image for multiplication.



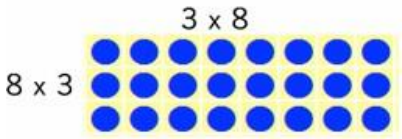
Introducing multiplication through repeated addition.
5 x 3 = 5 + 5 + 5



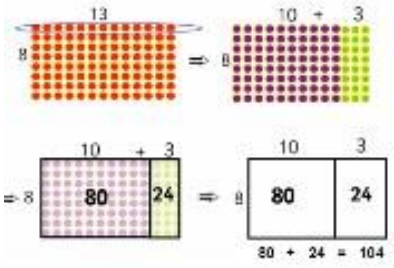
The repeated addition image leads into the array image, where the item being repeatedly added is a column or a row in the array. Building up the array in this way provides a powerful image.



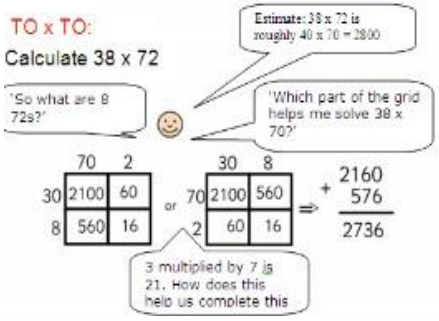
Arrays support later work with the grid method of multiplication.



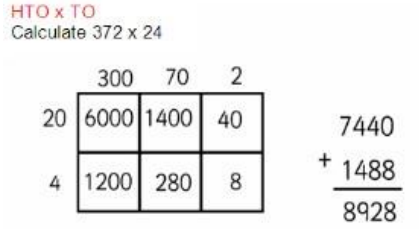
Arrays once again provide a useful image for introducing the grid method of multiplication. For some children who are ready, this will lead to vertical recording in the 'standard' form. For many children though, the grid method will be **the** written method throughout.
e.g. 8 x 13



(10 x 8) 80
(3 x 8) 24
104



The principles of the grid method can then be applied to a more formal presentation of the same strategies.



372
24
(372 x 20) 7440
(372 x 4) 1488
8928

When the understanding is there, then children can be moved towards the more traditional approach. However, some children will choose not use this method. Some feel more secure using the grid method.

125
5 x
25 (5 x 5)
100 (20 x 5)
500 (100 x 5)
625

72
3 x
216

38
7 x
266
5

742
8 x
5936
31