The St John's Guide to Times Tables

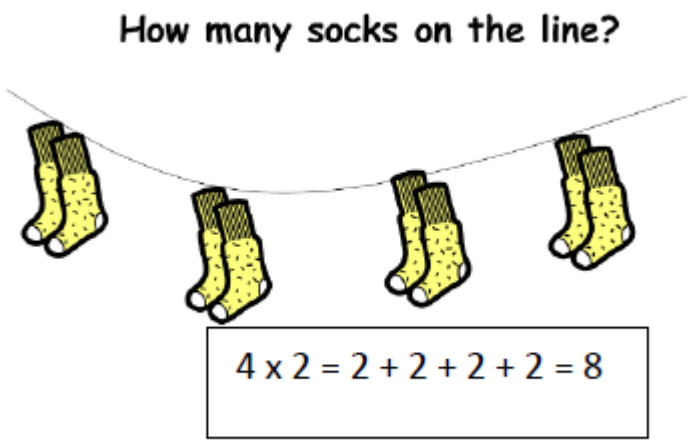
From the 2019-20 academic year, all year 4 children will be expected to complete an online, national times table test (MTC). This is in line with the expectation in the national curriculum that all children should be able to rapidly recall times tables facts to 12 x 12, along with the associated division facts. Our aim is for children to have been explicitly taught the skills below so they have more time to consolidate speed and accuracy in Year 4.

Expectation for times tables in each year group **(NC expectation)**	
Year 1	**Count in multiples of 2, 5 and 10. Recall and use all doubles to 10 and corresponding halves.**
Year 2	**Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.** **Count in multiples of 3** and 6. Recall and use multiplication facts for the 3 and 6 multiplication tables.
Year 3	**Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.** Recall and use multiplication and division facts for the 6 and 9 multiplication tables.
Year 4	**Recall and use multiplication and division facts for multiplication tables up to 12x12.**
Year 5	**Recall and use multiplication and division facts for multiplication tables up to 12x12.**
Year 6	**Recall and use multiplication and division facts for multiplication tables up to 12x12.**

It is important that children are explicitly taught what times tables are and how they work through concrete and pictorial methods – not just be taught to memorise facts.

Concrete

Using ‘lots of’ to reinforce the ideas of groups. i.e. how many socks in 4 pairs? How many wheels on 3 cars? If 4 children each have 2 pencils, how many pencils are there in total?

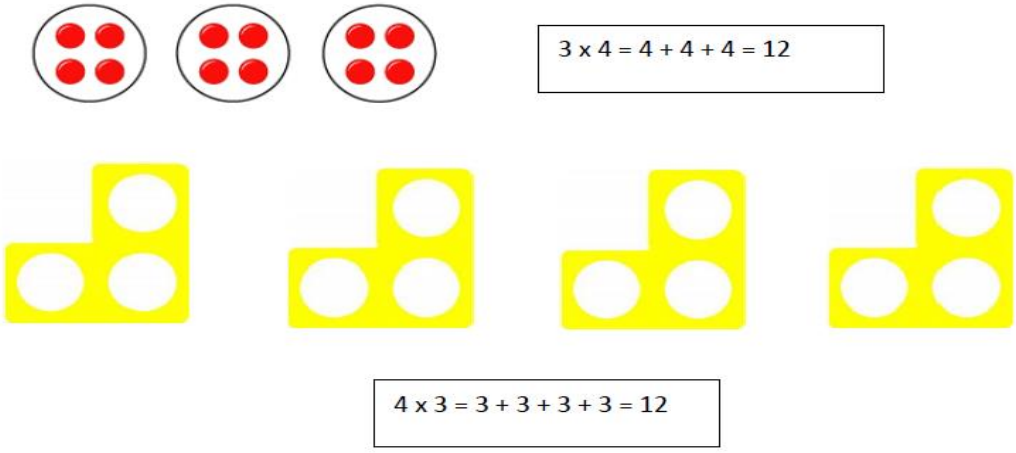


The idea of multiplication being repeated addition is important.

Representing the multiplication in many ways is important. Eg.

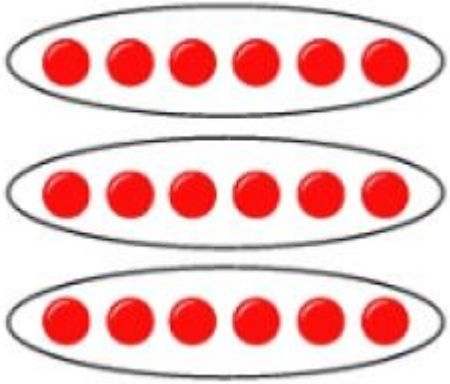
- Numicon is a good resource to show the ‘groups’ or ‘lots of’.

- Can make groups of items with hoops and beanbags, or multi-link eg.



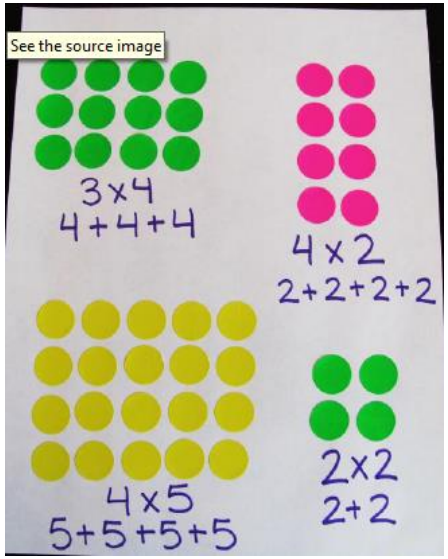
Pictorial

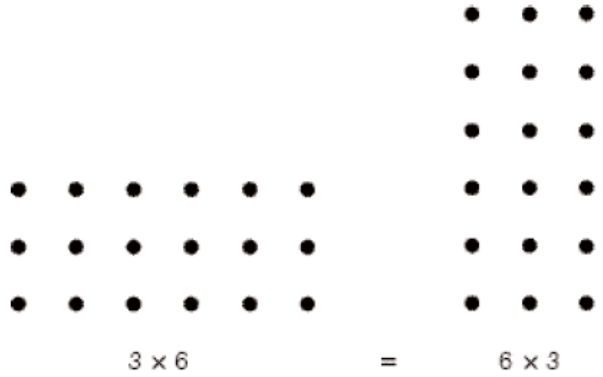
Drawing diagrams of the concrete groups you have made is an excellent start to moving away from using manipulatives such as those shown in step 1 above.



3 x 6 = 18

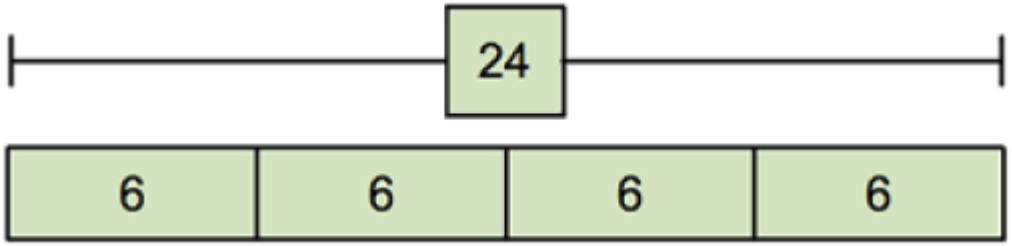
Moving on from drawing groups to arrays is the next step: it is an excellent way to show the relationship between multiplication and division, and to explain the commutative law (that 5 x 3 = 3 x 5 eg.)



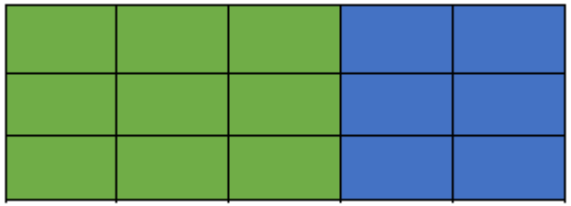


By drawing arrays, it is also possible to demonstrate the associative law (that 3 x 6 = 2 x 6 + 1 x 6).

Bar models can also be used as a way to draw multiplication questions, as can repeated jumps on a numberline.



Children should draw arrays using the squares in their books. This allows the children to reason more deeply and obtain a deeper understanding of number. It again reinforces the commutative and associative law. Again, with all arrays, it is easy to highlight the relationship between multiplication and division.



3 x 5 = 15,

or 3 x 3 + 2 x 3 = 15

Abstract

Once children understand times tables through the representations detailed above, they will be able to 'figure out' times tables by themselves. This will lead into the 'rapid recall' of all multiplication and division facts.

Before rapid recall of tables facts has been achieved, children should be taught to use facts they know to derive other facts (as opposed to just counting in multiples from x1 each time).

Multiplicand	7	7	7	7	7	7	7	7	7	7	7	7
Multiplier	1	2	3	4	5	6	7	8	9	10	11	12
Product	7	14		28	35	42			63	70	77	

Double x1 to find x2. Use doubling to find x4 and x8

Multiply by 10 then halve to find x5.

Multiply by 10 and then add or takeaway to find x9 and x11

Times table Rockstars is important for developing the rapid recall children need to complete the MTC successfully. The soundcheck assessment will be used termly in Year 3 and half-termly in Year 4 to track progress and identify those in need of additional support.