Progression in Maths – **Multiplication**

Please note; methods are taught progressively so that children's conceptual understanding of how and, importantly, why a 'method' works is continually developed. Having a range of strategies for children to select from enables every child to be able to succeed when faced with a multiplication question/problem.

Year	What will multiplication look like?	Notes
R	Jumping along number lines in steps of…. 100 square to look at patterns of multiples. Grouping.	Counting in steps of 2 and 10
1	Grouping. Pictorial repeated addition, arrays.	Counting in 2s, 5s and 10s begin steps of 3
2	Introduce the x symbol. Doubles as x2. Vocabulary of double, multiply, groups of, lots of etc. Use of arrays. ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ 4 x 2 = 8 2 x 4 = 8	Repeated addition as concept of multiplication Arrays, describing an array Tables facts 2 and 10 times table, begin to know the 5s. Weekly times table recall of sets in and out of order, and random sets of mixed times tables.
3	Recalling facts. 4 x 5 = 20, 5 x 4 = 20. +5 +5 +5 +5 0 5 10 15 **20** Access to unknown facts from the known, eg 7x8 can be accessed from knowing 5x8 and 2x8. Informal recording of partitioned numbers, 15 x 5 = 10 x 5 and 5 x 5	Known table facts 2, 5, 10 times tables Begin to know 3s and 4s Multiply by 10 / 100, understanding the shift in the digits according to their place value Know what each digit in a whole number represents, partition a three digit number Commutative law. • Approximate, calculate & check Weekly times table recall of sets in and out of order, and random sets of mixed times tables.

4	Continue to partition TU xU
	
	 Use grid method 23 x 8 = 184 Estimate first
	 x 20 3
	 8 160 24 = 184
	
	 Short multiplication Estimate first
	   23 25 23
	  x 8 x 9 x 8
	   24 (8x3) 45 (9x5) 184
	  160 (8x20) 180 (9x20) 2
	  184 225
		Know table facts up to 12X12 times tables Partitioning / distributive law Explain the effect of multiplying by 10 and 100 Introduce the grid notation
		
		• Develop an efficient standard method towards short multiplication.

5	Estimate first HTU x U using grid method
	                   HTU x U short multiplication
	                            least significant digit first
	 Estimate first TU x TU using grid method,
	                   TU x TU long multiplication
	                              72
	                            x 38
	          (72 x 30) 2160
	          (72 x 8) 576
	                        2736
	                           1
		Continue to practise all multiplication facts to 12 x 12
		• Approximate first, apply in timed challenges
		• Building on skills from Y4

6	Estimate first
	 Compact method ensuring language of calculations allows for the appropriate use of the carried digit.
	
	 Keep the place value in context.
	 4.92 x 3 4.00 x 3 = 12.00
	               0.90 x 3 = 2.70
	               0.02 x 3 = 0.06
	                          14.76
		All times tables to 12x12 and corresponding divisions Extend written method to include ThHTU x U, HTU x TU
		• Involve decimals through approximation.