Mental Maths Calculation Policy: Multiplication

The rationale for the Mental Maths Calculation Policy is to help provide teachers and children with a variety of strategies to tackle arithmetic questions without being overly reliant on formal written methods. The aim of this document is to help children becoming fluent, flexible and accurate in their mental calculation and help them to draw on their knowledge of known facts. Below is a grid of the potential strategies that can be applied and in which year groups you could use these strategies. This policy should be used in conjunction with the written methods calculation policy. This policy was inspired partly by the book Number Talks: Whole Number Computation by Shelly Parrish.

Category	Strategy	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication	Skip Counting	✓	✓	✓	✓	✓	✓
	Repeated Addition		✓	✓	✓	✓	✓
	Making Landmark Numbers			✓	✓	✓	✓
	Partial Products			✓	✓	✓	✓

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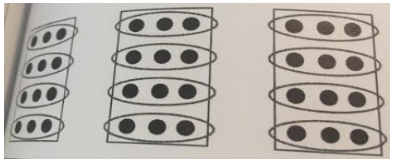
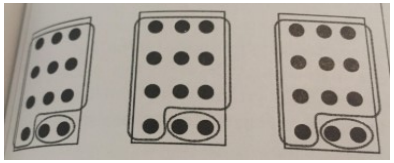
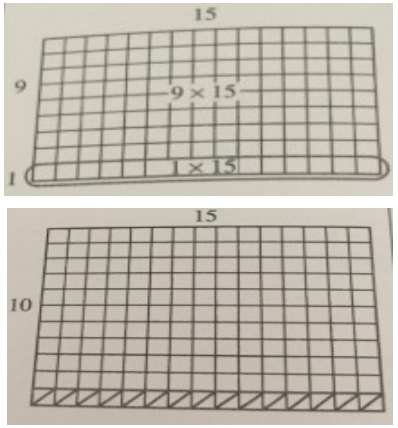
Strategy and method	Recorded Strategy	Representation (and practical strategy) Concrete	Pictorial	Abstract
Skip Counting Counting forwards by a number other than 1.	5 x 3 3, 6, 9, 12, 15	Introducing the vocabulary of 'times' 4 times 3. Get a 4, 3 times. 4 8 12 3 x 4 = 12	12 x 3 I saw 12 threes and I knew how to count in 3s. 	Michelle baked 3 pans of cookies. Each Pan has 12 cookies. How many cookies did Michelle bake?
Repeated Addition Adding the same number repeatedly.	3 x 12 12 + 12 + 12 12 + 12 = 24 24 + 12 = 36	5 x 4 2 x 5 2 x 5 5 + 5 = 10 5 + 5 = 10 10 + 10 = 20	Can also draw on related addition facts.  3 x 12 12 + 12 + 12 (3 x 10) 10 + 10 + 10 = 30	The use of the Bar model to support abstract problem solving. 4 Children go to the cinema. They each spend £15. How much do they spend altogether.
Making Landmark Numbers Landmark numbers are familiar numbers that making solving maths problems easier.	9 x 15 10 x 15 = 150 150 - 15 = 135	Concrete apparatus used to support in skip counting, repeated addition and partial products can be used here also.	 	A DVD costs£6. David buys 8. How much does he spend altogether. 8 x £6 (8 + 2) x £6 10 x £6= £60 2 x £6 = £12 £60 - £12 = £48

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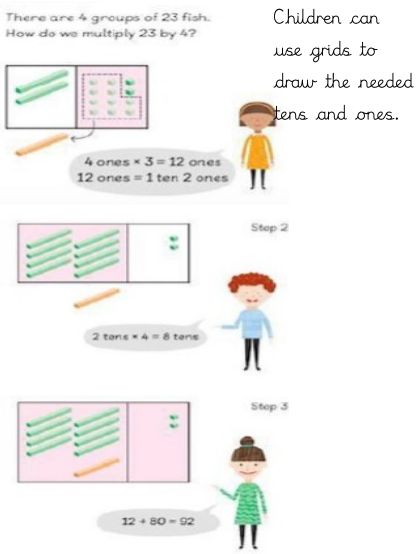
Partial Products Based on distributive property and keeps place value intact. Links to standard written method of long multiplication.	12 x 15 (10 + 2) X (10 + 5) 10 x 10 = 100 10 x 5 = 50 2 x 10 = 20 2 x 5= 10 100 + 50 + 20 + 10 = 180	473 x 2 Using Place Value Counters 400 x 2 = 800 70 x 2 = 140 3 x 2 = 6 800 + 140 + 6 = 946		Partitioning can be done in different ways. 12 x 15 (4 + 4 + 4) x 15 4 x 15 = 60 4 x 15 = 60 4 x 15 = 60 60 + 60 + 60 = 180