Ellingham C of E Primary School Year 3 Assessment Expectations Mathematics: Calculation 2		
End of Term 1	**End of Term 2**	**End of Term 3**
Calculation: Multiplication and Division		
I relate multiplication to repeated addition and division to repeated subtraction. I am beginning to recognise and use the inverse relationship to derive related facts, check calculations and to solve appropriate missing number problems, e.g. given 5 x 3=15, complete 3 x Δ = 15 and Δ ÷5 = 3	I am beginning to use the commutative and associative laws for efficient mental calculation e.g. 2 x 7 x 5 = 2 x 5 x 7 I am developing the use of the inverse relationship to derive related facts, check calculations and to solve missing number problems in the appropriate range of numbers.	I can use the commutative and associative laws for efficient mental calculation with a wider range of calculations.
I show rapid recall of 2, 5 and 10 x tables. I use doubling to connect the 2 and 4 multiplication tables.	I am developing recall and use of multiplication and division facts for the 3, 4 and 8 multiplication tables. I can connect 2, 4 and 8 tables through doubling.	I fluently recall and use multiplication and division facts for the 2, 5, 10, 3, 4 and 8 multiplication tables. I recognise a wider range of connections in tables.
I am beginning to develop efficient mental methods for multiplication and division using known table facts, commutative and associative laws and place value e.g. 40 x 2 = 80, 50 x 3 = 150, 5 x 15 x 2 = 5 x 2 x 15.	I am continuing to develop efficient mental methods for multiplication and division using known tables facts, commutative and associative laws and place value e.g. 40 x 4 = 160, 80 ÷ 4 = 20.	I am developing efficient mental methods for multiplication and division using known facts, commutative, associative and distributive laws e.g. 4 x 12 x 5 = 20 x 12 = 240, 15 x 3 = (10 + 5) x 3 perhaps represented with an array or the grid method.
I can write and calculate mathematical statements for multiplication and division using the multiplication tables that are known.	I can write and calculate mathematical statements for multiplication and division, and start to include appropriate 2-digit numbers, times 1-digit numbers, using informal recording methods, e.g. the grid method, linked to understanding of partitioning arrays to support the development of formal methods as appropriate.	I am progressing to formal written methods with appropriate numbers.
Problem Solving: I am beginning to solve problems involving appropriate multiplications and division facts including: missing number problems; positive integer scaling problems (using doubling and halving….draw a line two times as long); correspondence problems.	I can often solve problems using multiplications and division facts and calculation methods including: reasoning puzzles; positive integer scaling problems e.g. 4 times as high; correspondence problems in which n objects are connected to m objects and problems in a wider range of contexts.	I can usually solve problems involving appropriate multiplications and division facts and mental or written calculation methods including: correspondence problems in which n objects are connected to m objects and multi-step problems in a range of contexts.