Maths Skills Progression: Multiplication and Division

Please note that this progression framework has been taken from NCETM to support understanding of progression of the different maths strands. Skills may appear more than once as some skills support more than one area of progression.

	Multiplication and Division Facts	Multiples, Factors, Primes, Square and Cube Numbers	Written Method		Inverse Operations, Estimating and Checking Answers
EYFS					
Year 1	Count in multiples of twos, fives and tens				
Year 2	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs		
Year 3	Count from 0 in multiples of 4, 8, 50 and 100		Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods		Estimate the answer to a calculation and use inverse operations to check answers
Year 4	Count in multiples of 6, 7, 9, 25 and 1 000	Recognise and use factor pairs and commutativity in mental calculations	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Divide numbers up to 3-digit by a one-digit number using the formal written method	Estimate and use inverse operations to check answers to a calculation
Year 5		Identify multiples and factors, including finding all factor pairs of	Multiply numbers up to 4 digits by a one- or	Divide numbers up to 4 digits by a one-	

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	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	a number, and common factors of two numbers.	two-digit number using a formal written method, including long multiplication for two-digit numbers	digit number using the formal written method of short division and interpret remainders appropriately for the context	
		Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers			
		Establish whether a number up to 100 is prime and recall prime numbers up to 19			
Year 6		Identify common factors, common multiples and prime numbers	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Use written division methods in cases where the answer has up to two decimal places	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy **Ratio and Proportion** Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

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	Mental Calculation	Order of Operations	Problems Solving
EYFS			
Year 1			Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher
Year 2			Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Year 3	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods		Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects
Year 4	Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers		Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects
Year 5	Multiply and divide numbers mentally drawing upon known facts		Solve problems involving multiplication and division including using their knowledge of number facts
Year 6	Perform mental calculations, including with mixed operations and large numbers	Use their knowledge of the order of operations to carry out calculations involving the four operations	Solve problems involving addition, subtraction, multiplication and division