Queen's Park C.E/U.R.C Primary School: Maths Progression Map

Multiplication and Division

Multiplication and Division Facts						
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
explore and represent patterns within numbers up to 10, including evens and odds, **double facts and how quantities can be distributed equally**	count in multiples of twos, fives and tens (Number and Place Value)	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward (Number and Place Value) recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	count from 0 in multiples of 4, 8, 50 and 100 (Number and Place Value) recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	count in multiples of 6, 7, 9, 25 and 1 000 (Number and Place Value) recall multiplication and division facts for multiplication tables up to 12 × 12	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (Number and Place Value) Retrieval from Y4: recall multiplication and division facts for multiplication tables up to 12 × 12	Retrieval from Y4: recall multiplication and division facts for multiplication tables up to 12 × 12
Mental Calculation						
		show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	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 (appears also in Written Methods)	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 recognise and use factor pairs and commutativity in mental calculations	multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	perform mental calculations, including with mixed operations and large numbers Retrieval from Y5: multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
Written Calculation						
		calculate mathematical statements for multiplication and division within the	write and calculate mathematical statements for multiplication and	multiply two-digit and three-digit numbers by a one-digit number	multiply numbers up to 4 digits by a one- or two-digit number using a formal written	multiply multi-digit numbers up to 4 digits by a two-digit whole number using

		multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	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 (appears also in Mental Methods)	using formal written layout	method, including long multiplication for two-digit numbers divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	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
Properties of Number: Multiples, Factors, Primes, Square and Cube Numbers						
				recognise and use factor pairs and commutativity in mental calculations	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. 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 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	identify common factors, common multiples and prime numbers Retrieval from Y5: recognise and use square numbers and cube numbers including notation

Order of Operations						
						use their knowledge of the order of operations to carry out calculations involving the four operations
Inverse Operations, Estimation and Checking Answers						
			estimate the answer to a calculation and use inverse operations to check answers	estimate the answer to a calculation and use inverse operations to check answers		use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
Problem Solving						
	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	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	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	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	solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	solve problems involving addition, subtraction, multiplication and division