



St Matthew's Catholic Primary School – Progression Map

Number: Multiplication and Division

MULTIPLICATION & DIVISION FACTS						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<i>Count in multiples of twos, fives and tens (also in Number and Place Value)</i>	<i>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward (also in Number and Place Value)</i>	<i>Count from 0 in multiples of 4, 8, 50 and 100 (also in Number and Place Value)</i>	<i>Count in multiples of 6, 7, 9, 25 and 1000 (also in Number and Place Value)</i>	<i>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (also in Number and Place Value)</i>	Understand that 2 numbers can be related multiplicatively, and quantify multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD- 1
		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers 2MD-1	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 3NF- 2	Recall multiplication and division facts for multiplication tables up to 12×12 4NF-1	Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. 5NF-1	Use a given multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 6AS/MD- 2
				Understand and apply the distributive property of multiplication.		



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				4MD- 3		
	MENTAL CALCULATION					
			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	Multiply and divide numbers mentally drawing upon known facts	Perform mental calculations, including with mixed operations and large numbers
		Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 3NF-3	Recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers) 4MD-2	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5MD- 1 (10 and 100)	Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) (copied from Fractions)
				Apply place-value knowledge to	Apply place-value knowledge to known	



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				known additive and multiplicative number facts (scaling facts by 100) 4NF-3	additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). 5NF-2	
WRITTEN CALCULATION						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs	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 Mental Methods)	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Multiply numbers up to 4 digits by a one- using a formal written method, 5MD- 3	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
					Multiply numbers two-digit number using a formal written method, including long multiplication for two-digit numbers	
				Solve division problems, with two-	Divide numbers up to 4 digits by a one-digit	Divide numbers up to 4-digits by a two-digit



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				digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. 4NF-2	number using the formal written method of short division and interpret remainders appropriately for the context 5MD- 4	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
						<i>Use written division methods in cases where the answer has up to two decimal places (also in Fractions (including decimals))</i>
PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6



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				Recognise and use factor pairs and commutativity in mental calculations (repeated) 4MD- 2	Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. 5MD-2	Identify common factors, common multiples and prime 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	<i>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)</i>



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					Recognise and use square numbers and cube numbers, and the notation for squared () ² and cubed () ³	<i>Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm³) and cubic metres (m³), and extending to other units such as mm³ and km³ (also in Measures)</i>
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	ORDER OF OPERATIONS					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						Use their knowledge of the order of operations to carry out calculations involving the four operations
	INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS					
			<i>Estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)</i>	<i>Estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction)</i>		Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy



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	PROBLEM SOLVING					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	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 3MD- 1	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



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		Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division). 2MD-2			Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	<i>Solve problems involving similar shapes where the scale factor is known or can be found (also in Ratio and Proportion)</i>
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					Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
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