



Misterton Primary and Nursery School –Progression in Maths Multiplication and Division



Key Areas	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication and Division Facts	Know how to represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	Know how to <i>count in multiples of twos, fives and tens</i> (copied from Number and Place Value)	Know how to <i>count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward</i> (copied from Number and Place Value) Know how to recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Know how to <i>count from 0 in multiples of 4, 8, 50 and 100</i> (copied from Number and Place Value) Know how to recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Know how to <i>count in multiples of 6, 7, 9, 25 and 1 000</i> (copied from Number and Place Value) Know how to recall multiplication and division facts for multiplication tables up to 12×12	Know how to <i>count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</i> (copied from Number and Place Value)	<i>Confidently and accurately apply knowledge of multiplication and division facts</i>
Mental Calculation	<i>Use practical resources eg compare bears to multiply one number by another</i>	<i>Know that there are ways other than repeated addition to answer a basic calculation</i>	Know how to show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Know how to 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)	Know how to 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 Know how to recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	Know how to multiply and divide numbers mentally drawing upon known facts Know how to multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	Know how to perform mental calculations, including with mixed operations and large numbers Know how to <i>associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)</i> (copied from Fractions)

Written Calculation	<i>Know that you can give mathematical meanings to the marks you make</i>	<i>Know how to multiply and divide using the correct symbol</i>	Know how to calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs	Know how to 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)	Know how to multiply two-digit and three-digit numbers by a one-digit number using formal written layout Know how to recognise and use factor pairs and commutativity in mental calculations (repeated)	Know how to multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Know how to 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 Know how to 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 Know how to establish whether a	Know how to multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Know how to 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 Know how to <i>use written division methods in cases where the answer has up to two decimal places</i> (copied from Fractions (including decimals))
----------------------------	---	---	---	--	--	--	--

Properties of Numbers: Multiples, Factors, Primes, Square and Cube Numbers						number up to 100 is prime and recall prime numbers up to 19 Know how to recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)	Know how to identify common factors, common multiples and prime numbers <i>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</i> (copied from Fractions) Know how to <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</i> (copied from Measures)
Order of Operations							Know how to use their knowledge of the order of operations to carry out calculations involving the four operations
Inverse Operations, Estimating and Checking Answers		<i>Know that subtraction is the inverse of addition and vice versa and check answers using this</i>	<i>Know that multiplication is the inverse of division and vice versa and check answers using this</i>	Know how to <i>estimate the answer to a calculation and use inverse operations to check answers</i> (copied from	<i>estimate and use inverse operations to check answers to a calculation</i> (copied from Addition and Subtraction)	Know how to use estimation to check answers to calculations and determine, in the context of a	Know how to use estimation to check answers to calculations and determine, in the context of a

				from Addition and Subtraction)		problem, levels of accuracy	problem, levels of accuracy
Problem Solving	<i>Know how to solve one-step problems involving multiplication and division, by calculating the answer using concrete objects with the support of the teacher</i>	Know how to 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	Know how to solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Know how to 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	Know how to 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	Know how to solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Know how to solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Know how to solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Know how to solve problems involving addition, subtraction, multiplication and division Know how to <i>solve problems involving similar shapes where the scale factor is known or can be found</i> (copied from Ratio and Proportion)