



# Number: Multiplication and Division

MULTIPLICATION & DIVISION FACTS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<i>I know how to count in multiples of twos, fives and tens (copied from Number and Place Value)</i>	<i>I know how to count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward (copied from Number and Place Value)</i>	<i>I know how to count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)</i>	<i>I know how to count in multiples of 6, 7, 9, 25 and 1 000 (copied from Number and Place Value)</i>	<i>I know how to count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (copied from Number and Place Value)</i>	
	I know how multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	I know multiplication and division facts for the 3, 4, 6, 7, 11 and multiplication tables	I know multiplication and division facts for multiplication tables up to $12 \times 12$		
MENTAL CALCULATION					
		I 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)	I 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	I know how to multiply and divide numbers mentally drawing upon known facts	I know how to perform mental calculations, including with mixed operations and large numbers
	I know that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot		I know how to recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	I know how to multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	<i>I know how to associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <math>\frac{3}{8}</math>) (copied from Fractions)</i>



# Number: Multiplication and Division

WRITTEN CALCULATION					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	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	I 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)	I know how to multiply two-digit and three-digit numbers by a one-digit number using formal written layout	I 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	I 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
				I 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	I 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
					<i>I know how to use written division methods in cases where the answer has up to two decimal places (copied from Fractions (including decimals))</i>



# Number: Multiplication and Division

PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			I know how to use factor pairs and commutativity in mental calculations (repeated)	<p>I know how to identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>I know whether a number up to 100 is prime and recall prime numbers up to 19</p>	<p>I know how to identify common factors, common multiples and prime numbers</p> <p><i>I know how to use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)</i></p>
				<p>I know square numbers and how to use square numbers and cube numbers, and the notation for squared ( )<sup>2</sup> and cubed ( )<sup>3</sup></p>	<p><i>I know how to calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm)<sup>3</sup> and cubic metres (m)<sup>3</sup>, and extending to other units such as mm<sup>3</sup> and km<sup>3</sup> (copied from Measures)</i></p>



# Number: Multiplication and Division

ORDER OF OPERATIONS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					I know how to carry out calculations involving the four operations (using their knowledge of the order of operations)
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS					
		<i>I know how to estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)</i>	<i>I know how to estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction)</i>		I know how to use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy



# Number: Multiplication and Division

PROBLEM SOLVING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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	I 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	I 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	I 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	I know how to solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	I know how to solve problems involving addition, subtraction, multiplication and division
				I know how to solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
				I know how to solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	<i>I know how to solve problems involving similar shapes where the scale factor is known or can be found</i> (copied from Ratio and Proportion)