



## Progression of Skills: Multiplication and Division

Nursery	Reception	Y1	Y2	Y3	Y4	Y5	Y6
<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Compare two groups of objects, saying when they have the same number</p> <p>Show an interest in number problems</p> <p>Show an interest in representing numbers</p>	<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Find the total number of items in two groups by counting all of them.</p> <p>Record, using marks that they can interpret and explain.</p> <p>Begin to identify own mathematical problems based on own interests and fascinations</p> <p>ELG They solve problems, including doubling, halving and sharing</p>	<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>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</p>	<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (<math>=</math>) signs</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</p>	<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>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</p> <p>Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects</p>	<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></p> <p>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</p> <p>Recognise and use factor pairs and commutativity in mental calculations</p> <p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p>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 <math>n</math> objects are connected to <math>m</math> objects</p>	<p><b>Multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>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</p> <p>Multiply and divide numbers mentally drawing upon known facts</p> <p>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</p> <p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p>	<p><b>Addition, subtraction, multiplication and division</b></p> <p><b>Pupils should be taught to:</b></p> <p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <p>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</p> <p>Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</p> <p>Perform mental calculations, including with mixed operations and large numbers</p> <p>Identify common factors, common multiples and prime numbers</p>

						<p>Recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</p> <p>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p> <p>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p>	<p>Use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>Solve problems involving addition, subtraction, multiplication and division</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</p>
--	--	--	--	--	--	---	---