

# Multiplication and Division – National Curriculum 2014

Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>They solve problems, including doubling, halving and sharing.</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>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</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>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</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>Recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math> (facts for 6,7,9,11,12 are new)</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>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>recognise and use square numbers and cube numbers, and the notation <math>^2</math> for squared (<math>\square</math>) and <math>^3</math> for cubed (<math>\square</math>)</p> <p>multiply and divide numbers mentally drawing upon known facts</p> <p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</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>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>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>Identify common factors, common multiples and prime numbers</p> <p>Perform mental calculations, including with mixed operations and large numbers</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>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</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>



Recall of facts



Mental Calculation



Written Calculation



Laws of Arithmetic



Properties



Solving Problems