

# Multiplication and Division

	Methods	Number facts, including tables	Calculation	Mathematical vocabulary and operations	Commutation	Problem solving
1			Solve simple 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 simple one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.
2		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs		Show that multiplications of two numbers can be done in any order (commutative) and division of one number by another cannot	Solve one-step problems involving multiplication and division, using materials arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.
3	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 efficient written methods	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	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 efficient written methods			Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects
4	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Recall multiplication and division facts for multiplication tables up to 12 x 12Recognise and use factor pairs and commutatively in mental calculations	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		Recognise and use factor pairs and commutatively in mental calculations	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 which n objects are connected to m objects

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5	<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>Establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</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>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</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>
6	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient 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 context</p> <p>Perform mental calculations, including with mixed operations and large numbers</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>Using 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>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient 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 context</p> <p>Perform mental calculations, including with mixed operations and large numbers</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>Using their knowledge of the order of operations to carry out calculations involving the four operations</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, levels of accuracy</p>