



## Progression in Mathematics: Multiplication and Division

Concept

Nursery and  
EYFS

Year 1 and Year 2 

Year 3 and Year 4 

Year 5 and Year 6 

Recall  
Represent Use

recall and use multiplication and division facts for the 2,5 and 10 multiplication tables including recognising odd and even numbers

show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

recall and use multiplication and division facts for the 3,4 and 8 x tables

recall and use multiplication and division facts for tables up to 12x12

use place value , known and derived facts to multiply and divide mentally, including multiplying by 0 and 1

dividing by 1

multiplying 3 numbers together

recognise and use factor pairs and commutativity in mental calculations

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 numbers

establish whether a number up to 100 is prime and recall prime numbers up to 19

recognise square numbers and cubed numbers – know their notation

identify common factors, common multiples and prime numbers

use estimation to check answers to calculations and determine an appropriate degree of accuracy

<p>Calculations</p>	<p>beginning to count in 1s 2s and 5s</p> <p>beginning to count in 1s 2s and 5s</p>	<p>calculate mathematical statements for multiplication and division within the multiplication tables and write them using the correct signs <math>\times</math> <math>\div</math> and <math>=</math></p>	<p>write and calculate mathematical statements for multiplication and division using the <math>\times</math> tables that they know</p> <p>two digit numbers <math>\times</math> one digit numbers</p> <p>Using mental methods and progressing to formal written methods</p> <p>multiply two digit and three digit numbers by a one digit number using formal written layout</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><math>\times</math> and mentally drawing upon known facts</p> <p>divide numbers up to a two-digit whole number using the formal long division method or formal short division method and interpret remainders (fractions or rounding)</p> <p>divide numbers up to 4 digits by one digit number, using the formal written method of short division and interpret remainders appropriately</p> <p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p> <p>multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written long <math>\times</math> method</p> <p>perform mental calculations, including with mixed operations and large numbers</p>
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<p><b>Solve Problems</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>solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems</p>	<p>solve problems including missing number problems involving multiplication and division, including positive integer scaling problems and correspondence problems</p> <p>solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit</p> <p>solve integer scaling problems and harder correspondence problems such as n objects are connected to m objects</p>	<p>solve problems involving addition, subtraction, multiplication and division including their knowledge of factors and multiples, squares and cubes</p>
<p><b>Combined Operations</b></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>use their knowledge of the order of operations to carry out calculations involving the four operations</p>