

	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>
<b>STATUTORY</b>	<p>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.</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 (=) 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 one-step 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 integer scaling problems and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects.</p>
<b>NON - STATUTORY</b>	<p><i>Through grouping and sharing small quantities, pupils should begin to understand multiplication and division; doubling numbers and quantities, and finding simple fractions of objects, numbers and quantities.</i></p> <p><i>They should make connections between arrays, number patterns, and counting in twos, fives and tens.</i></p>	<p><i>Pupils should use a variety of language to describe multiplication and division.</i></p> <p><i>Pupils should be introduced to the multiplication tables.</i></p> <p><i>They should practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other.</i></p> <p><i>They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face.</i></p> <p><i>They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</i></p> <p><i>Pupils should work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition.</i></p> <p><i>They begin to relate these to fractions and measures (e.g. <math>40 \div 2 = 20</math>, 20 is a half of 40).</i></p> <p><i>They use commutativity and inverse relations to develop multiplicative reasoning (e.g. <math>4 \times 5 = 20</math> and <math>20 \div 5 = 4</math>).</i></p>	<p><i>Pupils should continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.</i></p> <p><i>Pupils should develop efficient mental methods, for example, using commutativity and associativity (e.g. <math>4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240</math>) and multiplication and division facts (e.g. using <math>3 \times 2 = 6</math>, <math>6 \div 3 = 2</math> and <math>2 = 6 \div 3</math>) to derive related facts (<math>30 \times 2 = 60</math>, <math>60 \div 3 = 20</math> and <math>20 = 60 \div 3</math>).</i></p> <p><i>Pupils should develop reliable written methods for multiplication &amp; division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication &amp; division.</i></p> <p><i>Pupils should solve simple problems in contexts, deciding which of the four operations to use and why, including measuring and scaling contexts, and correspondence problems in which <math>m</math> objects are connected to <math>n</math> objects (e.g. 3 hats and 4 coats, how many different outfits; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).</i></p>

	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>
<b>STATUTORY</b>	<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 and harder multiplication problems such as which n objects are connected to m objects.</p>	<p>Identify multiples and factors, including finding all factor pairs and common factors of two numbers.</p> <p>Know &amp; use the vocabulary of prime numbers, prime factors &amp; composite (non-prime) numbers.</p> <p>Establish whether a number up to 100 is prime &amp; 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 &amp; interpret remainders appropriately for the context.</p> <p>Multiply &amp; divide whole numbers &amp; those involving decimals by 10, 100 &amp; 1000.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).</p> <p>Solve problems involving multiplication and division 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>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 &amp; prime numbers.</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>Solve addition &amp; subtraction multi-step problems in contexts deciding which operations &amp; methods to use &amp; why .</p> <p>Solve problems involving <math>+</math> <math>-</math> <math>\times</math> and <math>\div</math>.</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p>

	Y4 ( x and ÷)	Y5 ( x and ÷)	Y6 ( x and ÷)
NON - STATUTORY	<p><i>Pupils should continue to practise recalling and using multiplication tables and related division facts to aid fluency.</i></p> <p><i>Pupils should practise mental methods and extend this to three-digit numbers to derive facts, for example <math>200 \times 3 = 600</math> into <math>600 \div 3 = 200</math>.</i></p> <p><i>Pupils should practise to become fluent in the formal written method of short multiplication and short division with exact answers See Mathematics Appendix 1.</i></p> <p><i>Pupils should solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. This should include correspondence questions such as the number of choices of a meal on a menu, or three cakes shared equally between 10 children.</i></p>	<p><i>Pupils should practise and extend their use of the formal written methods of short multiplication and short division See Mathematics Appendix 1. They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</i></p> <p><i>They should use &amp; understand the terms factor, multiple &amp; prime, square &amp; cube numbers.</i></p> <p><i>Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders as fractions, as decimals or by rounding e.g. <math>98 \div 4 = 24 \text{ r } 2 = 24\frac{1}{2} = 24.5 \approx 25</math>.</i></p> <p><i>Pupils use multiplication and division as inverses to support the introduction of ratio in Y6, e.g. by multiplying and dividing by powers of 10 in scale drawings or by multiplying &amp; dividing by powers of a 1000 in converting between units such as kilometres &amp; metres.</i></p> <p><i>Distributivity can be expressed as <math>a(b + c) = ab + ac</math>.</i></p> <p><i>They understand the terms factor, multiple and prime, square and cube numbers and use them to construct equivalence statements (for example, <math>4 \times 35 = 2 \times 2 \times 35</math>; <math>3 \times 270 = 3 \times 3 \times 9 \times 10 = 92 \times 10</math>).</i></p> <p><i>Pupils use and explain the equals sign to indicate equivalence, including in missing number problems (for example, <math>13 + 24 = 12 + 25</math>; <math>33 = 5 \times \square</math>).</i></p>	<p><i>Pupils should practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division. See Mathematics Appendix 1.</i></p> <p><i>They should undertake mental calculations with increasingly large numbers and more complex calculations.</i></p> <p><i>Pupils should continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</i></p> <p><i>Pupils should round answers to a specified degree of accuracy for example, to the nearest 10, 20, 50 etc., but not to a specified number of significant figures.</i></p> <p><i>Pupils explore the order of operations using brackets; for example, <math>2 + 1 \times 3 = 5</math> and <math>(2 + 1) \times 3 = 9</math>.</i></p> <p><i>Common factors can be related to finding equivalent fractions.</i></p>