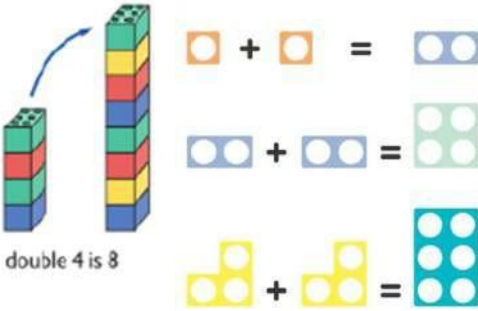

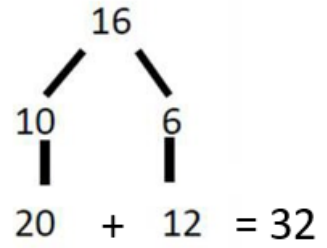
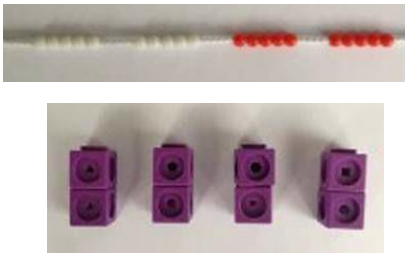
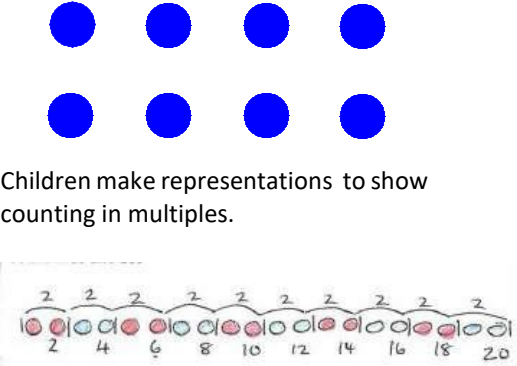


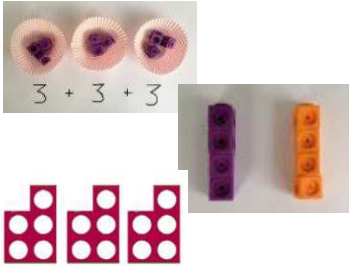
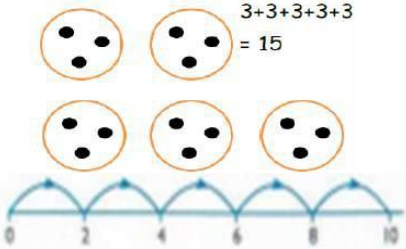

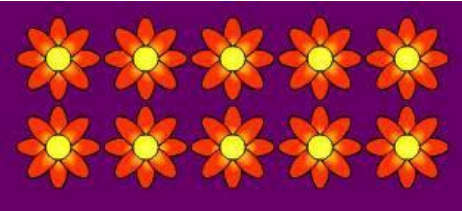
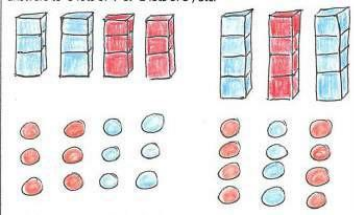
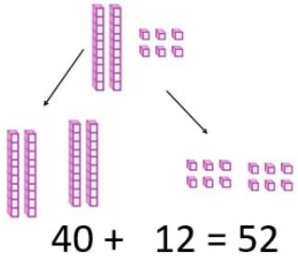
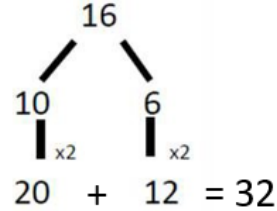


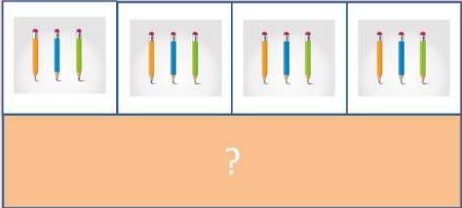
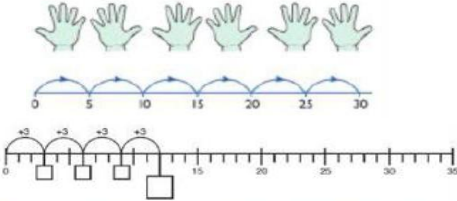
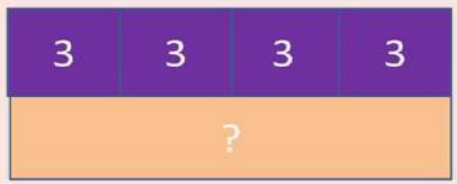


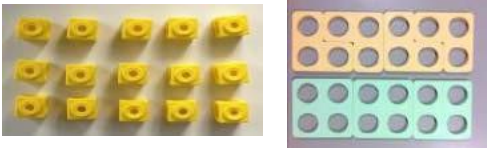
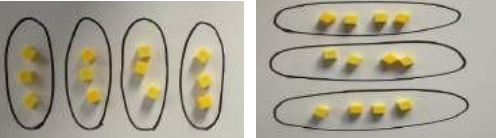
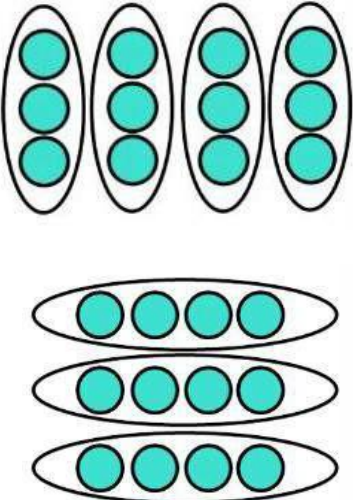

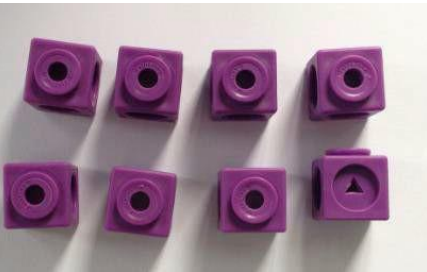
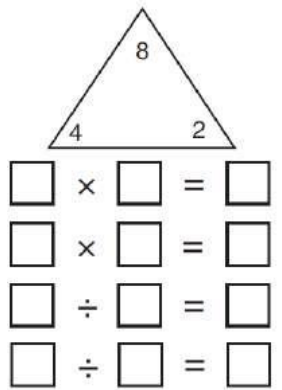
Year 1 Multiplication

Objective & Strategy	Concrete	Pictorial	Abstract	Key Vocabulary
<p>Doubling</p>	<p>Use practical activities using manipulatives including cubes and Numicon to demonstrate doubling</p>  <p>The image shows two stacks of four colored cubes (red, yellow, green, blue) being combined into one stack of eight. Below, three equations use Numicon blocks: 1 orange block + 1 orange block = 2 blue blocks; 2 blue blocks + 2 blue blocks = 4 green blocks; 2 yellow blocks + 2 yellow blocks = 4 teal blocks.</p>	<p>Draw pictures to show how to double numbers</p> <p style="text-align: center;">Double 4 is 8</p>  <p>Two groups of four purple squares are shown, with the second group being a duplicate of the first, illustrating the doubling process.</p>	<p>Partition a number and then double each part before recombining it back together.</p>  <p>A partitioning tree shows 16 splitting into 10 and 6. Below, the equation 20 + 12 = 32 is shown, where 20 is double 10 and 12 is double 6.</p>	<p>Double, partition, recombine, total, how many altogether</p>
<p>Counting in multiples</p>	<p>Count the groups as children are skip counting, children may use their fingers as they are skip counting.</p>  <p>A number line from 0 to 20 has red dots at 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20. Below, four purple blocks are shown, representing groups of 2.</p>	 <p>Two rows of four blue dots each. Below, a number line from 0 to 20 shows skip counting by 2s, with the number 2 written above each dot.</p> <p>Children make representations to show counting in multiples.</p>	<p>Count in multiples of a number aloud.</p> <p>Write sequences with multiples of numbers.</p> <p>2, 4, 6, 8, 10</p> <p>5, 10, 15, 20, 25, 30</p>	<p>groups of, multiples, lots of, total</p>

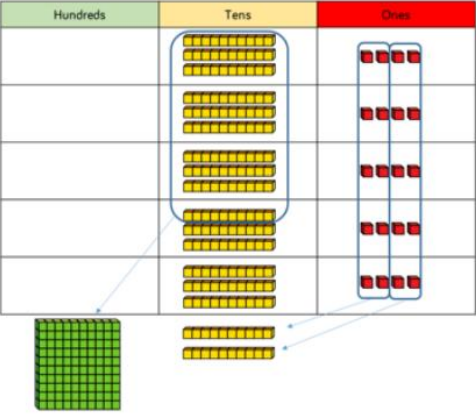

<p>Making equal groups and counting the total</p>	 <p>Use manipulatives to create equal groups.</p>	<p>Draw  to show</p> <p>2 lots of 3 = 6</p> <p>Draw and make representations</p>	<p>2 lots of 4 = 8</p>	<p>equal, groups of, lots of, multiple, total</p>
<p>Repeated addition</p>	<p>Use different objects to add equal groups</p>  <p>$3 + 3 + 3$</p>	<p>Use pictorial including number lines to solve problems</p> <p>There are 3 sweets in one bag. How many sweets are in 5 bags altogether?</p>  <p>$3+3+3+3+3 = 15$</p>	<p>Write addition sentences to describe objects and pictures.</p>  <p>$2 + 2 + 2 + 2 + 2 = 10$</p>	<p>equal, add, addition, plus, more, how many altogether, total, lots of, groups of</p>
<p>Understanding arrays</p>	<p>Use objects laid out in arrays to find the answers to 2 lots 5, 3 lots of 2 etc.</p> 	<p>Draw representations of arrays to show understanding</p> 	<p>3 lots of 2 = 6</p> <p>2 groups of 5 = 10</p>	<p>lots of, groups of, how many altogether, total, how many more to make ..</p>

Year 2 Multiplication

Objective & Strategy	Concrete	Pictorial	Abstract	Key Vocabulary
Doubling	<p>Model doubling using dienes and place value counters.</p>  <p style="text-align: center;">$40 + 12 = 52$</p>	<p>Draw pictures and representations to show how to double numbers</p>	<p>Partition a number and then double each part before recombining it back together.</p>  <p style="text-align: center;">$20 + 12 = 32$</p>	<p>partition, multiple, groups of, lots of, times, multiply</p>
<p>Counting in multiples of 2, 3, 4, 5, 10 from 0 (repeated addition)</p>	<p>Count the groups as children are skip counting, children may use their fingers as they are skip counting. Use bar models.</p>  <p style="text-align: center;">$5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40$</p>  	<p>Number lines, counting sticks and bar models should be used to show representation of counting in multiples.</p>  	<p>Count in multiples of a number aloud.</p> <p>Write sequences with multiples of numbers.</p> <p>0, 2, 4, 6, 8, 10 0, 3, 6, 9, 12, 15 0, 5, 10, 15, 20, 25, 30</p> <p style="font-size: 2em;">$4 \times 3 = \square$</p>	<p>repeated addition, groups of, lots of, times, multiply, total</p>

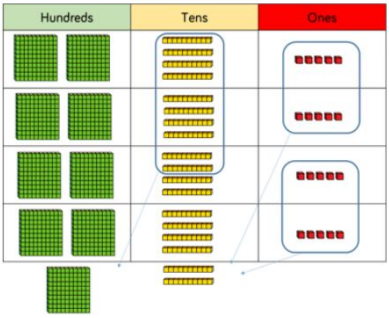
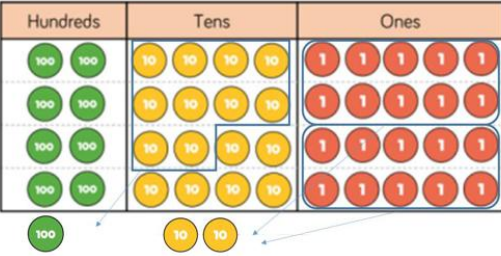
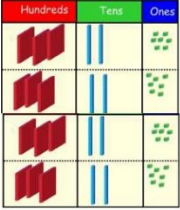
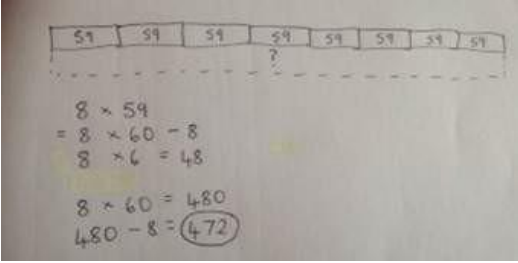
<p>Multiplication is commutative</p>	<p>Create arrays using counters and cubes and Numicon.</p>  <p>Pupils should understand that an array can represent different equations and that, as multiplication is commutative, the order of the multiplication does not affect the answer.</p> 	<p>Use representations of arrays to show different calculations and explore commutativity.</p> 	<p>$12 = 3 \times 4$</p> <p>$12 = 4 \times 3$</p> <hr/> <p>Use an array to write multiplication sentences and reinforce repeated addition.</p>  <p>$5 + 5 + 5 = 15$</p> <p>$3 + 3 + 3 + 3 + 3 = 15$</p> <p>$5 \times 3 = 15$</p> <p>$3 \times 5 = 15$</p>	<p>groups of, lots of, times, multiply, multiple, total</p>
<p>Using the Inverse</p> <p><i>This should be taught alongside division, so pupils learn how they work alongside each other.</i></p>			<p>Show all 8 related fact family sentences.</p> <p>$2 \times 4 = 8$</p> <p>$4 \times 2 = 8$</p> <p>$8 \div 2 = 4$</p> <p>$8 \div 4 = 2$</p> <p>$8 = 2 \times 4$</p> <p>$8 = 4 \times 2$</p> <p>$2 = 8 \div 4$</p> <p>$4 = 8 \div 2$</p>	<p>groups of, lots of, times, multiply, multiple, total</p>

Year 3 Multiplication

Objective & Strategy	Concrete	Pictorial	Abstract	Key Vocabulary
Multiply two-digit numbers by one-digit	$34 \times 5 =$ 	$34 \times 5 =$ 	$\begin{array}{r} 34 \\ \times 5 \\ \hline 170 \end{array}$	<p>times, multiplication, multiply, multiplied by, multiple of, product, row, column, double, half, group, place value.</p>

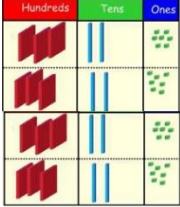
Year 4 Multiplication

Objective & Strategy	Concrete	Pictorial	Abstract	Key Vocabulary
Multiplying	$245 \times 4 =$	$245 \times 4 =$		times, multiplication,

<p>three-digit numbers by one-digit.</p>			$\begin{array}{r} 245 \\ \times 4 \\ \hline 12 \\ \hline 980 \end{array}$	<p>multiply, multiplied by, multiple of, product, row, column, double, half, group, place value.</p>
<p>To support learners where required</p>	<p>Children can continue to be supported by place value counters at the stage of multiplication. This is initially done where there is no regrouping. $321 \times 2 = 642$ It is important at this stage that they always multiply the ones first. The corresponding long multiplication is modelled alongside</p> 	<p>Bar modelling and number lines can support learners when solving problems with multiplication alongside the formal written methods.</p> 	<p>This may lead to a compact method.</p> $\begin{array}{r} 327 \\ \times 4 \\ \hline 12 \\ \hline 1308 \end{array}$	



Year 5 and 6 Multiplication

Objective & Strategy	Concrete	Pictorial	Abstract	Key Vocabulary
<p>To multiply three and four-digit numbers by one-digit.</p>	<p>Children can continue to be supported by place value counters at the stage of multiplication. This is initially done where there is no regrouping. $321 \times 2 = 642$</p> <p>It is important at this stage that they always multiply the ones first. The corresponding long multiplication is modelled alongside</p> 	<p>Continue to use bar modelling to support problem solving</p>	$\begin{array}{r} 327 \\ \times \quad 4 \\ \hline 12 \\ \hline 1,308 \end{array}$	<p>times, multiplication, multiply, multiplied by, multiple of, product, row, column, double, half, group, place holder, place value.</p>
<p>To multiply by two-digits</p>	<p>Manipulatives may still be used with the corresponding long multiplication modelled alongside.</p>	<p>Continue to use bar modelling to support problem solving</p>	$\begin{array}{r} 18 \\ \times 13 \\ \hline 54 \\ + 180 \text{ (place holder)} \\ \hline 234 \end{array}$	<p>times, multiplication, multiply, multiplied by, multiple of, product, row, column, double, half, group, place holder, place value.</p>

			$ \begin{array}{r} 1234 \\ \times 16 \\ \hline 122 \\ 7404 \\ + 12340 \text{ (place holder)} \\ \hline 19,744 \end{array} $	
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Year 6 Multiplication				
Objective & Strategy	Concrete	Pictorial	Abstract	Key Vocabulary
Multiplying decimals up to 2 decimal places by a single digit.			<p>Remind children that the single digit belongs in the ones column. Line up the decimal points in the question and the answer.</p> $ \begin{array}{r} 3.19 \\ \times 8 \\ \hline 1 \quad 7 \\ 25.52 \end{array} $	<p>times, multiplication, multiply, multiplied by, multiple of, product, row, column, double, half, group, place holder, decimal, tenths, hundredths, thousandths, place value</p>

