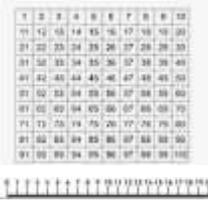
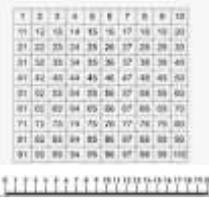
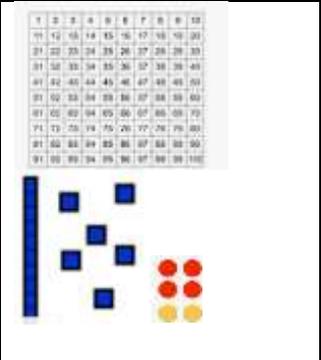
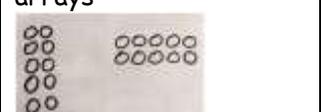
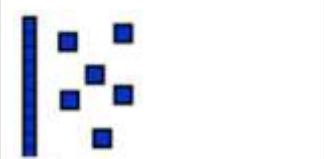


## Wodensfield Primary Key Stage 2 Calculation Policy Multiplication and Division

<u>Multiplication and Division</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<p><b><u>Multiplication and Division Facts</u></b></p>	<p>count from 0 in multiples of 4, 8, 50 and 100 recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> 	<p>count in multiples of 6, 7, 9, 25 and 1 000 recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></p> 	<p>count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</p> 	
<p><b><u>Mental Calculation</u></b></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 (see written methods below)</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 recognise and use factor pairs and commutativity in mental calculations</p> 	<p>multiply and divide numbers mentally drawing upon known facts</p> $\begin{array}{r} 3 \times 23 \\ \phantom{3} \times 20 = 60 \\ \phantom{3} \times 3 = 9 \\ \hline 69 \end{array}$ <p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p> <p>PLACE VALUE CHART</p> 	<p>perform mental calculations, including with mixed operations and large numbers</p>

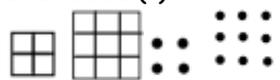
## Wodensfield Primary Key Stage 2 Calculation Policy Multiplication and Division

				
<p><b><u>Written Methods</u></b></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>3x4</p> <p>4+4+4</p>  <p>arrays</p> 	<p>Multiply and divide two-digit and three-digit numbers by a one-digit number using formal written layout. To interpret remainders in division calculations.</p> $\begin{array}{r} 23 \\ \times 6 \\ \hline 138 \\ \hline \end{array}$ $4 \overline{) 164r2}$ 	<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> $6 \times 23 =$ $\begin{array}{r} 23 \\ \times 6 \\ \hline 138 \\ \hline \end{array}$ $\begin{array}{r} 3216 \\ \times 23 \\ \hline 9648 \\ 64320 \\ \hline 73968 \end{array}$ <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 multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> $\begin{array}{r} 3216 \\ \times 23 \\ \hline 9648 \\ 64320 \\ \hline 73968 \end{array}$ <p>divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using</p>

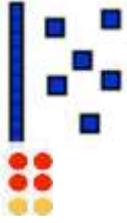
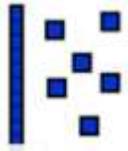
## Wodensfield Primary Key Stage 2 Calculation Policy Multiplication and Division

	$3 \times 2 = 6$ $8 \div 4 = 2$ $\begin{array}{r} 24 \\ \times 4 \\ \hline 96 \end{array}$ $\begin{array}{r} 24 \\ 4 \overline{)96} \end{array}$		$\begin{array}{r} 1\ 2\ 3\ 4\ r3 \\ 5 \overline{)6173} \end{array}$	<p>the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</p> $\begin{array}{r} 212 \\ 12 \overline{)2544} \\ \underline{24} \\ 14 \\ \underline{12} \\ 24 \\ \underline{24} \\ 0 \end{array}$
<p><u>Properties of numbers: multiples, factors, primes, square and cube numbers</u></p>		<p>recognise and use factor pairs and commutativity in mental calculations</p>	<p>identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p><b>Factor beetles</b></p>  <p>know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p>	<p>identify common factors, common multiples and prime numbers</p>

## Wodensfield Primary Key Stage 2 Calculation Policy Multiplication and Division

			<p>establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</p> 	
<u>Order of operations</u>				<p>use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p><b>BODMAS</b></p>
<u>Inverse operations, estimating and checking answers</u>	estimate and use inverse operations to check answers to a calculation	estimate and use inverse operations to check answers to a calculation		use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

## Wodensfield Primary Key Stage 2 Calculation Policy Multiplication and Division

<p><b>Problem Solving</b></p>	<p>solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects</p> <p><b>RUCSAC</b> written methods as seen above</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 n objects are connected to m objects</p> <p><b>RUCSAC</b> written methods as seen above</p> 	<p>solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p> $5 \overline{)615}$ <p>615 - 5 =</p> <p><input type="checkbox"/> - 615 - 5</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>Find the product of 6 and 23</p> $6 \times 23 =$ <p><input type="checkbox"/> = 6 × 23</p> <p><b>RUCSAC</b> written methods as seen above</p>	<p>solve problems involving addition, subtraction, multiplication and division</p> <p><b>RUCSAC</b> written methods as seen above</p>
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## Wodensfield Primary Key Stage 2 Calculation Policy Multiplication and Division