

## Newington Green and Rotherfield Maths MTP- Year 2

Blue font in Spring/Summer indicates previously untaught objective

Statements in red come from the teacher assessment framework for Working At the Expected Standard.

Green font indicates cross-curricular links

	<b>Autumn</b> <b>My Health Life</b> <b>Great Fire of London</b>	<b>Spring</b> <b>Africa</b> <b>Bears</b>	<b>Summer</b> <b>Environmental Activists</b> <b>The Blitz</b>
<b>Number and Place Value</b>	<b>Weeks 1-3 and Weeks 13-14</b>	<b>Weeks 1-2</b>	<b>Week 1 and Week 6</b>
	<ul style="list-style-type: none"> <li>count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward e.g. 65, 60, 55, 50, 45, 40.....</li> <li>recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>identify, represent and estimate numbers using different representations, including the number line</li> <li>compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> <li>read and write numbers to at least 100 in numerals and in words e.g. forty</li> <li>use place value and number facts to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward e.g. 36, 33, 30, 27....</li> <li>recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>identify, represent and estimate numbers using different representations, including the number line</li> <li>compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> <li>read and write numbers to at least 100 in numerals and in words e.g. <i>forty-five</i></li> <li>use place value and number facts to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward</li> <li>recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>identify, represent and estimate numbers using different representations, including the number line</li> <li>compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> <li>read and write numbers to at least 100 in numerals and in words e.g. <i>one hundred and fifteen</i></li> <li>use place value and number facts to solve problems</li> </ul>

	<p>-Partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones</p>		
Addition and Subtraction	<b>Weeks 1-3 and Weeks 13-14</b>	<b>Weeks 1-2 and Week 9</b>	<b>Weeks 2-3 and Weeks 7-9 (according to need)</b>
	<ul style="list-style-type: none"> <li>• solve problems with addition and subtraction:               <ul style="list-style-type: none"> <li>◦ using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>◦ applying their increasing knowledge of mental and written methods</li> </ul> </li> <li>• recall and use addition and subtraction facts to 20 fluently (<math>19 - 7 = 12</math>), and derive and use related facts up to 100 (<math>30 = 90 - 60</math>)</li> <li>• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:               <ul style="list-style-type: none"> <li>◦ a two-digit number and ones <math>13 + 4 = 17</math></li> <li>◦ a two-digit number and tens <math>23 + 20 = 43</math></li> <li>◦ two two-digit numbers <math>24 + 12 = 36</math></li> <li>◦ adding three one-digit numbers <math>4 + 3 + 6 = 13</math></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• solve problems with addition and subtraction:               <ul style="list-style-type: none"> <li>◦ using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>◦ applying their increasing knowledge of mental and written methods</li> </ul> </li> <li>• recall and use addition and subtraction facts to 20 fluently (<math>19 - 7 = 12</math>), and derive and use related facts up to 100 (<math>30 = 90 - 60</math>)</li> <li>• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:               <ul style="list-style-type: none"> <li>◦ a two-digit number and ones <math>27 + 4</math></li> <li>◦ a two-digit number and tens <math>23 + 30</math></li> <li>◦ two two-digit numbers <math>34 + 29</math></li> <li>◦ adding three one-digit numbers <math>7 + 5 + 3</math></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:               <ul style="list-style-type: none"> <li>◦ a two-digit number and ones <math>87 - 9 =</math></li> <li>◦ a two-digit number and tens e.g. <math>76 + 30</math></li> <li>◦ two two-digit numbers e.g. <math>63 - 29</math></li> <li>◦ adding three one-digit numbers e.g. <math>9 + 7 + 9</math></li> </ul> </li> <li>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.</li> </ul>

	<ul style="list-style-type: none"> <li>show that addition of two numbers can be done in any order (commutative, e.g. <math>3 + 4 = 7</math>, <math>4 + 3 = 7</math>) and subtraction of one number from another cannot</li> <li>recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems e.g. <math>\Delta - 14 = 28</math></li> </ul>	<ul style="list-style-type: none"> <li>show that addition of two numbers can be done in any order (commutative, e.g. <math>3 + 4 = 7</math>, <math>4 + 3 = 7</math>) and subtraction of one number from another cannot</li> <li>recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems e.g. <math>\Delta - 14 = 28</math></li> </ul>	
	<p>-Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. <math>48 + 35</math>; <math>72 - 17</math>)</p> <p>-Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If <math>7 + 3 = 10</math>, then <math>17 + 3 = 20</math>; if <math>7 - 3 = 4</math>, then <math>17 - 3 = 14</math>; leading to if <math>14 + 3 = 17</math>, then <math>3 + 14 = 17</math>, <math>17 - 14 = 3</math> and <math>17 - 3 = 14</math>)</p>		
<b>Measurement</b>	<b>Weeks 4-5</b>	<b>Weeks 5-6</b>	<b>Weeks 4-5</b>
	<ul style="list-style-type: none"> <li>choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (<math>^{\circ}\text{C}</math>); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> <li>compare and order lengths, mass, volume/capacity and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> </ul>	<ul style="list-style-type: none"> <li>choose and use appropriate standard units to estimate and measure temperature (<math>^{\circ}\text{C}</math>); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> <li>compare and sequence intervals of time</li> <li>tell and write the time to five minutes, including quarter past/to the hour and draw the</li> </ul>	<ul style="list-style-type: none"> <li>choose and use appropriate standard units to estimate and measure temperature (<math>^{\circ}\text{C}</math>)</li> <li>recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value e.g. make 73p using the fewest coins</li> <li>find different combinations of coins that equal the same amounts of money e.g. find different ways to make 50p, pupils can work out how many</li> </ul>

		<p>hands on a clock face to show these times.</p> <ul style="list-style-type: none"> <li>• know the number of minutes in an hour and hours in a day</li> </ul>	<p>£2 coins are needed to exchange for a £20 note</p> <ul style="list-style-type: none"> <li>• solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change e.g. <i>I buy a cake for 60p and a biscuit for 25p, how much change will I get from £1?</i></li> <li>• compare and sequence intervals of time</li> <li>• tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</li> </ul>
	<b>Weeks 9-12</b>		<b>Weeks 7-9 (according to need)</b>
	<ul style="list-style-type: none"> <li>• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> <li>• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a</li> </ul>		<ul style="list-style-type: none"> <li>• compare and sequence intervals of time</li> <li>• tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</li> </ul>

	<p>particular value e.g. <i>find different ways to make 50p, pupils can work out how many £2 coins are needed to exchange for a £20 note</i></p> <ul style="list-style-type: none"> <li>find different combinations of coins that equal the same amounts of money e.g. <i>how many different ways can you make 30p?</i></li> <li>solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change e.g. <i>I buy a toy for £14; how much change do I get from £20?</i></li> </ul>		
	<p>-Use different coins to make the same amount -Read the time on a clock to the nearest 15 minutes</p>		
<b>Statistics</b>	<b>Weeks 9-12</b>	<p>COMPUTING LINK: To use data to create tables and charts using J2e. To create a simple table in Excel and enter Data into it. To use data in a table to generate a graph (adding a graph title and labelling axis.) To collect data in response to a problem/question.</p>	<b>Weeks 4-5</b>
	<p>SCIENCE LINK: To be able to compare and group together a variety of every-day materials on the basis of their simple physical properties. PSHE LINK: LO: To learn about ways of being physically active throughout the day.</p> <ul style="list-style-type: none"> <li>interpret and construct simple pictograms (e.g. <i>where the symbol represents 2, 5 or 10 units</i>), tally charts, block diagrams and simple tables</li> </ul>		<p>SCIENCE LINK: To be able to identify and name a variety of plants and animals in their habitats (including microhabitats).</p> <ul style="list-style-type: none"> <li>interpret and construct simple pictograms (e.g. <i>where the symbol represents 2, 5 or 10 units</i>), tally charts, block diagrams and simple tables</li> <li>ask and answer simple questions by counting the number of objects in each</li> </ul>

	<ul style="list-style-type: none"> <li>ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>ask and answer questions about totalling and comparing categorical data</li> </ul>		<p>category and sorting the categories by quantity</p> <ul style="list-style-type: none"> <li>ask and answer questions about totalling and comparing categorical data</li> </ul>
<p>-Read scales* in divisions of ones, twos, fives and tens (*the scale can be in the form of a number line, a practical situation or a graph axis)</p>			
<b>Geometry and Position &amp; Direction</b>	<b>Weeks 4-5</b>	<b>Weeks 7-8</b>	
	<ul style="list-style-type: none"> <li>identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line</li> <li>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>identify 2-D shapes on the surface of 3-D shapes, e.g. a circle on a cylinder and a triangle on a pyramid</li> <li>compare and sort common 2-D and 3-D shapes and everyday objects</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line</li> <li>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>identify 2-D shapes on the surface of 3-D shapes e.g. a circle on a cylinder and a triangle on a pyramid</li> <li>compare and sort common 2-D and 3-D shapes and everyday objects e.g. sort 3-D shapes in different ways such as whether they are prisms, whether they have more than 8 edges...; sort</li> </ul>	

		<p>2-D shapes in different ways such as whether they are quadrilaterals and have line symmetry....</p> <ul style="list-style-type: none"> <li>order and arrange combinations of mathematical objects in patterns</li> </ul> <p>GEOGRAPHY LINK: To be able to directional and locational language to describe and locate bear habitats on a map.</p> <p>To design a map of our local area</p> <ul style="list-style-type: none"> <li>use mathematical vocabulary to describe position, direction and movement including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line e.g. pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles</li> </ul>	
	<p>-Name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry</p>		
	<b>Weeks 6-8</b>	<b>Weeks 3-4 and Weeks 10-11</b>	<b>Weeks 7-9 (according to need)</b>

<b>Multiplication and Division</b>	<ul style="list-style-type: none"> <li>recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers e.g. <math>22 \div 2 = 11</math></li> <li>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</li> <li>show that multiplication of two numbers can be done in any order (commutative, e.g. <math>5 \times 3 = 15</math>, <math>3 \times 5 = 15</math>) and division of one number by another cannot</li> <li>solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts e.g. <i>share 18 counters between 3 children</i></li> </ul>	<ul style="list-style-type: none"> <li>recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers e.g. <i>circle the odd numbers</i></li> <li>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</li> <li>show that multiplication of two numbers can be done in any order (commutative, e.g. <math>5 \times 3 = 15</math>, <math>3 \times 5 = 15</math>) and division of one number by another cannot</li> <li>solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts e.g. <i>share 18 counters between 3 children</i></li> </ul>	<ul style="list-style-type: none"> <li>recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</li> <li>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</li> <li>show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> <li>solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</li> </ul>
	-Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary		
<b>Fractions</b>	<b>Weeks 6-8</b>	<b>Weeks 3-4 and Week 12</b>	<b>Weeks 9 – 10</b>



	<ul style="list-style-type: none"> <li>recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity e.g. <math>\frac{1}{3}</math> of 30cm = 10cm</li> <li>write simple fractions e.g. <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</li> </ul>	<ul style="list-style-type: none"> <li>recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity e.g. how long is <math>\frac{1}{3}</math> of a ribbon which is 60 cm long? There are 20 sweets. Jon is given <math>\frac{1}{3}</math> and Amy is given <math>\frac{1}{2}</math>. Who is given the most sweets?</li> <li>write simple fractions e.g. <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</li> </ul>	
	-Identify $\frac{1}{4}$ , $\frac{1}{3}$ , $\frac{1}{2}$ , $\frac{2}{4}$ , $\frac{3}{4}$ , of a number or shape, and know that all parts must be equal parts of the whole		
<b>Transition</b>	<b>Summer Term Weeks 10 – 12</b>		
	<p><b>Working towards expectations for Y3</b></p> <p><b>Number and place value</b></p> <ul style="list-style-type: none"> <li>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> <li>recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li>compare and order numbers up to 1000</li> <li>identify, represent and estimate numbers using different representations</li> <li>read and write numbers up to 1000 in numerals and in words</li> <li>solve number problems and practical problems involving these ideas.</li> </ul> <p><b>Addition and subtraction</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>add and subtract numbers mentally, including:</li> </ul>		

	<ul style="list-style-type: none"><li>○ a three-digit number and ones</li><li>○ a three-digit number and tens</li><li>○ a three-digit number and hundreds</li><li>• add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li><li>• estimate the answer to a calculation and use inverse operations to check answers</li><li>• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li></ul>
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