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

	Autumn **My Health Life** **Great Fire of London**	**Spring** **Africa** **Bears**	**Summer** **Environmental Activists** **The Blitz**
Number and Place Value	**Weeks 1-3 and Weeks 13-14**	**Weeks 1-2**	**Week 1 and Week 6**
	• 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….. • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use <, > and = signs • read and write numbers to at least 100 in numerals and in words e.g. forty • use place value and number facts to solve problems	• 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….* • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use <, > and = signs • read and write numbers to at least 100 in numerals and in words *e.g. forty-five* • use place value and number facts to solve problems	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use <, > and = signs • read and write numbers to at least 100 in numerals and in words *e.g. one hundred and fifteen* • use place value and number facts to solve problems

	-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*		
Addition and Subtraction	**Weeks 1-3 and Weeks 13-14**	**Weeks 1-2 and Week 9**	**Weeks 2-3 and Weeks 7-9 (according to need)**

	• solve problems with addition and subtraction:
	  ○ using concrete objects and pictorial representations, including those involving numbers, quantities and measures
	  ○ applying their increasing knowledge of mental and written methods
	• recall and use addition and subtraction facts to 20 fluently (*19 – 7 = 12*), and derive and use related facts up to 100 (*30 = 90 – 60*)
	• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
	  ○ a two-digit number and ones 13 + 4 = 17
	  ○ a two-digit number and tens *23 + 20 = 43*
	  ○ two two-digit numbers *24 + 12 = 36*
	  ○ adding three one-digit numbers *4 + 3 + 6 = 13*
		• solve problems with addition and subtraction:
		  ○ using concrete objects and pictorial representations, including those involving numbers, quantities and measures
		  ○ applying their increasing knowledge of mental and written methods
		• recall and use addition and subtraction facts to 20 fluently (*19 – 7 = 12*), and derive and use related facts up to 100 (*30 = 90 – 60*)
		• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
		  ○ a two-digit number and ones *27 + 4*
		  ○ a two-digit number and tens *23 + 30*
		  ○ two two-digit numbers *34 + 29*
		  ○ adding three one-digit numbers *7 + 5 + 3*
			• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
			  ○ a two-digit number and ones 87 – 9 =
			  ○ a two-digit number and tens e.g. 76 + 30
			  ○ two two-digit numbers e.g. 63 - 29
			  ○ adding three one-digit numbers e.g. 9 + 7 + 9
			• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.

	• show that addition of two numbers can be done in any order (commutative, *e.g. 3 + 4 = 7, 4 + 3 = 7)* and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems *e.g.* $\Delta - 14 = 28$	• show that addition of two numbers can be done in any order (commutative, *e.g. 3 + 4 = 7, 4 + 3 = 7*) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems *e.g.* $\Delta - 14 = 28$	
	-Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus *(e.g. 48 + 35; 72 – 17)* -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 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)*		
Measurement	**Weeks 4-5**	**Weeks 5-6**	**Weeks 4-5**
	• 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 • compare and order lengths, mass, volume/capacity and record the results using >, < and =	• choose and use appropriate standard units to estimate and measure temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw the	• choose and use appropriate standard units to estimate and measure temperature (°C) • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value *e.g. make 73p using the fewest coins* • 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*

		hands on a clock face to show these times. • know the number of minutes in an hour and hours in a day	*£2 coins are needed to exchange for a £20 note* • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change *e.g. I buy a cake for 60p and a biscuit for 25p, how much change will I get from £1?* • compare and sequence intervals of time • 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.
	Weeks 9-12		**Weeks 7-9 (according to need)**
	• 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 • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a		• compare and sequence intervals of time • 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.

	particular value *e.g. find different ways to make 50p, pupils can work out how many £2 coins are needed to exchange for a £20 note* • find different combinations of coins that equal the same amounts of money *e.g. how many different ways can you make 30p?* • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change *e.g. I buy a toy for £14; how much change do I get from £20?*		
	-Use different coins to make the same amount -Read the time on a clock to the nearest 15 minutes		
Statistics	**Weeks 9-12** 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. • interpret and construct simple pictograms (*e.g. where the symbol represents 2, 5 or 10 units*), tally charts, block diagrams and simple tables	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.	**Weeks 4-5** SCIENCE LINK: To be able to identify and name a variety of plants and animals in their habitats (including microhabitats). • interpret and construct simple pictograms (*e.g. where the symbol represents 2, 5 or 10 units*), tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each

	• ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data		category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data
	-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)		
Geometry and Position & Direction	**Weeks 4-5**	**Weeks 7-8**	
	• identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, *e.g. a circle on a cylinder and a triangle on a pyramid* • compare and sort common 2-D and 3-D shapes and everyday objects	• identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes *e.g. a circle on a cylinder and a triangle on a pyramid* • 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*	

		2-D shapes in different ways such as whether they are quadrilaterals and have line symmetry…. • order and arrange combinations of mathematical objects in patterns GEOGRAPHY LINK: To be able to directional and locational language to describe and locate bear habitats on a map. To design a map of our local area • 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*	
	-Name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry		
	Weeks 6-8	**Weeks 3-4 and Weeks 10-11**	**Weeks 7-9 (according to need)**

Multiplication and Division	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers *e.g. 22 ÷ 2 = 11* • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative, *e.g. 5 X 3 = 15, 3 X 5 = 15*) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts *e.g. share 18 counters between 3 children*	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers *e.g. circle the odd numbers* • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative, *e.g. 5 X 3 = 15, 3 X 5 = 15*) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts *e.g. share 18 counters between 3 children*	• recall and use multiplication and division facts for the 2, 5 • and 10 multiplication tables, including recognising odd and even numbers • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
	-Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary		
Fractions	**Weeks 6-8**	**Weeks 3-4 and Week 12**	**Weeks 9 – 10**

<table>
<tr><td></td><td>recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity e.g. 1/3 of 30cm = 10cm
write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.</td><td>recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity e.g. how long is 1/3 of a ribbon which is 60 cm long? There are 20 sweets. Jon is given 1/3 and Amy is given ½. Who is given the most sweets?
write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.</td><td></td></tr>
<tr><td></td><td colspan="3">-Identify 1/4, 1/3, 1/2 , 2/4, 3/4, of a number or shape, and know that all parts must be equal parts of the whole</td></tr>
<tr><td>Transition</td><td colspan="3">Summer Term Weeks 10 – 12</td></tr>
<tr><td></td><td colspan="3">Working towards expectations for Y3

Number and place value
count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
compare and order numbers up to 1000
identify, represent and estimate numbers using different representations
read and write numbers up to 1000 in numerals and in words
solve number problems and practical problems involving these ideas.
Addition and subtraction
Pupils should be taught to:
add and subtract numbers mentally, including:</td></tr>
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	- a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds - add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction - estimate the answer to a calculation and use inverse operations to check answers - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.