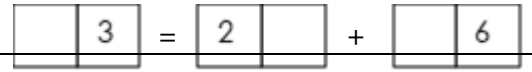
Newington Green and Rotherfield Maths MTP - Year 3

Blue font in Spring/Summer indicates previously untaught objective

Green font indicates cross-curricular links

	Autumn **Strong Forces** **The Big Dig**	**Spring** **Oceans and Seas** **Our Island Home**	**Summer** **How Does Your Garden Grow?** **Light and Dark**
Number and Place Value	**Weeks 1-3 and Weeks 13-14**	**Weeks 3-4**	**Week 6**
	• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number *e.g. 10 more than 395* • 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 *e.g. using place value cards to show 985 = 900 + 80 + 5; tally marks; base 10 apparatus* • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas *e.g. 146 = 100 and 40 and 6, 146 = 130 and 16*	• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number *e.g. 10 more than 195* • 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 *e.g. three hundred and forty-six* • solve number problems and practical problems involving these ideas	• 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 *e.g. three hundred and forty-six* • solve number problems and practical problems involving these ideas
Addition and Subtraction	**Weeks 1-3 and Weeks 13-14**	**Weeks 3-4**	**Week 1 and Weeks 7-9 (according to need)**

	• add and subtract numbers mentally, including:
	  ○ a three-digit number and ones *e.g. 858 + 8*
	  ○ a three-digit number and tens *e.g. 858 – 40*
	  ○ a three-digit number and hundreds *e.g. 858 – 300*
	• 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 *e.g. 702 – 249 is approximately 700 – 250 = 450; check 453 + 249 = 702*
	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction *e.g. investigate the numbers which could go in the blanks when 2 × ____ = 7 + ____*
		• add and subtract numbers mentally, including:
		  ○ a three-digit number and ones e.g. 346 + 7
		  ○ a three-digit number and tens e.g. 476 + 50
		  ○ a three-digit number and hundreds e.g. 858 – 500
		• 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 e.g. 702 – 249 is approximately 700 – 250 = 450; check 453 + 249 = 702
		• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction e.g. There are 46 boys and 58 girls in Year 3, but 12 children are away; how many Year 3 children are at school?
			PSHE LINK: LO: To understand what influences people's choices about spending and saving money.
			
			LO: To learn how people can keep track of their money.
			
			• add and subtract numbers mentally, including:
			  ○ a three-digit number and ones *e.g. 507 - 8*
			  ○ a three-digit number and tens *e.g. 476 + 50*
			  ○ a three-digit number and hundreds *e.g. 858 – 300*
			• 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 *e.g. 702 – 249 is approximately 700 – 250 = 450; check 453 + 249 = 702*
			• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction *e.g. investigate the numbers which could go in the boxes when:*
			 

Measurement	**Weeks 4-5**	**Weeks 1-2**	**Weeks 2-3 and Weeks 7-9 (according to need)**
	SCIENCE LINK: To be able to compare how things move on different surfaces. • measure, compare, add and subtract: ○ lengths (m/cm/mm) *e.g. how much ribbon is left when 36cm is cut from 1m? Which is longer: 6½cm or 62mm? 5m or 450cm? Measure and draw lines to the nearest ½ cm. Know the approximate length of a book, a room, a handspan…* ○ mass (kg/g) *e.g. find 3 vegetables which weigh between 100g and 300g. Read 250g on a scale labelled every 100g. Which is heavier: 1kg 300g or 1½kg? Know the approximate mass of a book, an apple, a baby, a man…* • measure the perimeter of simple 2-D shapes	• add and subtract amounts of money to give change, using both £ and p in practical contexts *e.g. I buy 2 packs of sweets for 75p each; how much change will I get from £2? I have a £2 coin, two £1 coins, three 50p coins, a 20p and seven 5p coins; how much more do I need to make £10?* • tell and write the time from an analogue clock, including using Roman numerals from to XII, and 12-hour and 24-hour clocks *e.g. draw hands on a clock face to show 'ten to four', making sure the hour hand is located correctly*	SCIENCE LINK: To be able to explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant. To be able to investigate the way in which water is transported within plants. To be able to find patterns in the way that the size of shadows change. • measure, compare, add and subtract volume/capacity (l/ml) *e.g. Read 300ml on a scale labelled every 200ml. Order a set of containers by capacity, using a measuring jug and water to check. Know the approximate capacity of a cup, a jug, a bucket…* • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of
	Weeks 9-12	**Weeks 7-8**	
	• volume/capacity (l/ml) *e.g. read 300ml on a scale labelled every 200ml. Order a set of containers by capacity, using*	HISTORY LINK: To be able to develop my knowledge and understanding of Anglo- Saxon settlements/villages (model making).	

	a measuring jug and water to check. Know the approximate capacity of a cup, a jug, a bucket… • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks *e.g. draw hands on a clock face to show 'ten to four', making sure the hour hand is located correctly* • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events, for example to calculate the time taken by particular events or tasks.	DESIGN & TECHNOLOGY LINK: To make a dessert. • measure, compare, add and subtract: o length (m/cm/mm) *e.g. how much ribbon is left when 36cm is cut from 1m? Which is longer: 6½cm or 62mm? 5m or 450cm? Measure and draw lines to the nearest ½ cm. Know the approximate length of a book, a room, a handspan…* o mass (kg/g) *e.g. find 3 vegetables which weigh between 100g and 300g. Read 250g on a scale labelled every 100g. Which is heavier: 1kg 300g or 1½kg? Know the approximate mass of a book, an apple, a baby, a man…* • measure the perimeter of simple 2-D shapes	days in each month, year and leap year • compare durations of events, for example to calculate the time taken by particular events or tasks
Geometry	**Weeks 4-5**	**Weeks 7-8**	**Weeks 4-5**
	• draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D	• recognise that angles are a property of shape or a description of a turn	• draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes

	shapes in different orientations and describe them *e.g. number of faces, edges and vertices; guess my shape: it has a square face and four triangular faces (square-based pyramid)* COMPUTING LINK: To program multiple sprites using Scratch Jr or Hopscotch. • recognise that angles are a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines	• identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	in different orientations and describe them GEOGRAPHY LINK: To be able to use a map to plan a journey. • Recognise that angles are a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines
Multiplication and Division	**Weeks 6-8**	**Weeks 5-6 and Weeks 9-10**	**Weeks 7-9 (according to need)**
	• 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	• 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	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication and division using the multiplication tables that

	and progressing to formal written methods *e.g. using 3 × 2 = 6, 6 ÷ 3 = 2 and 2 = 6 ÷ 3 to derive 30 × 2 = 60, 60 ÷ 3 = 20 and 20 = 60 ÷3* • solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects *e.g. 90 = 3 ×____; John is 120cm tall. He is twice as tall as Sue. How tall is Sue?* • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	progressing to formal written methods *e.g. 34 X 5 or 64 ÷ 4* • solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects *e.g. 240 = ___ × 4* • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • 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.
Fractions	**Weeks 6–8**	**Weeks 5-6**	**Weeks 7-9 (according to need)**
	• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 *e.g. 3 cakes shared between 10 children gives $^3/_{10}$ each* • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small	• recognise and show, using diagrams, equivalent fractions with small denominators *e.g.* ½ = $^3/_6$  • add and subtract fractions with the same denominator within one whole *e.g. 5/7 + 1/7 = 6/7* • compare and order unit fractions, and fractions with the same denominators *e.g. put*	• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

	denominators *e.g. find $^{1}/_{3}$ of 9 beads, then $^{2}/_{3}$ of 9 beads* • recognise and use fractions as numbers *(e.g. on a number line)*: unit fractions and non-unit fractions with small denominators • recognise and show, using diagrams, equivalent fractions with small denominators *e.g.* ½ = $^{3}/_{6}$ 	*these fractions in order from smallest to greatest $^{3}/_{8}$, $^{1}/_{8}$, $^{7}/_{8}$, $^{5}/_{8}$* • solve problems that involve all of the above **Weeks 11-12** • count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 *e.g. 3 cakes shared between 10 children gives $^{3}/_{10}$ each; 2/10 = 2 ÷ 10 = 0.2* • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators *e.g. there are 8 marbles and three of them are red; what fraction of the marbles are red?* • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators *e.g. place ¾ on the number line* • recognise and show, using diagrams, equivalent fractions with small denominators *e.g.* ½ = $^{3}/_{6}$	• recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] • compare and order unit fractions, and fractions with the same denominators

		 • add and subtract fractions with the same denominator within one whole *e.g. 5/7 + 1/7 = 6/7* • compare and order unit fractions, and fractions with the same denominators *e.g. put these fractions in order from smallest to greatest* $^{3}/_{8}$, $^{1}/_{8}$, $^{7}/_{8}$, $^{5}/_{8}$ • solve problems that involve all of the above	
Statistics	**Weeks 9-12** SCIENCE LINK: To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. • interpret and present data using bar charts, pictograms and tables *e.g. understanding and using simple scales e.g. 2, 5, 10 units per cm with increasing accuracy* • solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables	SCIENCE LINK: To begin to decide what kind of scientific enquiry I could use to find the answer. To be able to record my findings. To be able to use my results to draw simple conclusion, suggest improvement and raise further questions.	**Weeks 4-5** SCIENCE LINK: To be able to explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant. • interpret and present data using bar charts, pictograms and tables *e.g. understanding and using simple scales e.g. 2, 5, 10 units per cm with increasing accuracy* • solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables

Transition	Summer Term Weeks 10-12
	Working towards expectations for Y4 **Number and place value** Pupils should be taught to: • count in multiples of 6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 **Addition and subtraction** Pupils should be taught to: • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **Multiplication and division** Pupils should be taught to: • recall multiplication and division facts for multiplication tables up to 12 × 12

	• 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