Newington Green and Rotherfield Maths MTP – Y4

Blue font in Spring/Summer indicates previously untaught objective

Green font indicates cross-curricular links

	Autumn **Food Glorious Food** **Chocolate**	**Spring** **Inventors**	**Summer** **Save Our Planet** **Changes**
Number and Place Value	**Week 1-3 and Weeks 13-14** • count in multiples of 6, 7, 9, 25 and 1000 *e.g. 625, 600, 575, 550, 525, 500, …* • find 1000 more or less than a given number *e.g. 45 + 1000, 8904 – 1000* • 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 *e.g. using place value cards, diennes, abacus, pictures* • round any number to the nearest 10, 100 or 1000 *e.g.*	**Week 3** • count in multiples of 6, 7, 9, 25 and 1000 *e.g. 7, 14, 21, 28, 35, 42…* • find 1000 more or less than a given number *e.g. 2085 + 1000, 9004 – 1000* • count backwards through zero to include negative numbers *e.g. 9, 6, 3, 0, -3, -6* • round any number to the nearest 10, 100 or 1000 *e.g. 659 rounds to 660, 700, 1000* • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value *e.g. 49 = XLIX*	

	5429 rounds to 5430, 5400, 5000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value		
Addition and Subtraction	**Weeks 1-3 and Weeks 13-14** • 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 *e.g. 8702 – 499 is approximately 9000 – 500 = 8500; check 8203 + 499 = 8702* • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why *e.g. It costs £3.50 for Ben to go swimming and £5:70 for his mum. How much change is there from £10?*		**Week 1** • 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 *e.g. 5905 + 299 is approximately 6000 + 300 = 6300; check 6204 - 299 = 5905* • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why *e.g. Mr Smith sets out on a 619km journey. He drives 320km before lunch and 185km after lunch. How much farther does he need to drive?*

Measurement	Weeks 4-5	Weeks 1-2	Weeks 2-3

	DESIGN & TECHNOLOGY LINK: To make a breakfast product (suggestions breakfast muffin / banana bread)
	• convert between different units of measure (e.g. kilometre to metre; hour to minute) *e.g. 4½kg = 4500, 90 minutes = 1½ hours*
	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres *e.g. find the perimeter of an L-shape where the lengths are given or can be measured*
	• find the area of rectilinear shapes by counting squares *e.g. find the area of an L-shape drawn on squared paper*
	
	Weeks 9-12
	
	• estimate, compare and calculate different measures, including money in pounds and pence *e.g. put in order: £1.20, 98p, £0.89, £1.08*
	• read, write and convert time between analogue and digital 12 and 24-hour clocks *e.g. ¼ to*
		SCIENCE LINK: To be able to recognise that sound gets fainter as the distance from the sound source increases
		• convert between different units of measure (e.g. kilometre to metre; kilogram to gram; litre to millilitre; hour to minute)
		• read, write and convert time between analogue and digital 12 and 24-hour clocks *e.g. ¼ past 3 in the afternoon can be written as 3:15pm or 15:15*
		• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *e.g. which of these is the longest amount of time:*
		  ○ *360 minutes*
		  ○ *2 hours 30 minutes*
		  ○ *3 hours 20 minutes*
		  ○ *160 minutes*
		• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres *e.g. find the perimeter of an L-shape where the lengths are given or can be measured*
		• find the area of rectilinear shapes by counting squares *e.g.*
			• convert between different units of measure (e.g. kilometre to metre; kilogram to gram; litre to millilitre; hour to minute)
			• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres *e.g. draw a shape with a perimeter of…cm*
			• find the area of rectilinear shapes by counting squares *e.g. use squared paper to draw a shape with an area of…cm²*
			• estimate, compare and calculate different measures, including money in pounds and pence *e.g. put in order: 4.2l, 4700ml, 4½l, 490ml*
			• read, write and convert time between analogue and digital 12 and 24-hour clocks *e.g. twenty to nine in the evening can be written as 8:40pm and 20:40*
			• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *e.g. which of these is the longest amount of time:*

	8 in the evening can be written as 19:45
	• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days *e.g. which of these children are 3 years old:*
	  • *Isabel 39 months*
	  • *Ben 32 months*
	  • *Cara 50 months*
	  • *Dylan 42 months*
		find the area of an L-shape drawn on squared paper
		• estimate, compare and calculate different measures, including money in pounds and pence *e.g. put in order: 4.2kg, 4700g, 4½kg, 490g*
			○ *2 months*
			○ *10 weeks*
			○ *21 days*
			Weeks 7-9 (according to need)
			• convert between different units of measure (e.g. kilometre to metre; hour to minute)

Geometry and Position & Direction	**Weeks 4-5** • compare and classify geometric shapes, including quadrilaterals (e.g. parallelogram, rhombus, trapezium) and triangles (e.g. isosceles, equilateral, scalene), , based on their properties and sizes *e.g. sort triangles to find those that are isosceles and/or have a right angle* • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations	**Week 6** GEOGRAPHY LINK: To be able to begin to experiment with and understand 4-figure grid references • describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon *e.g. find the coordinates of the missing vertex of a shape*	**Weeks 4-5** • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes *e.g. sort quadrilaterals to find those with a line symmetry or parallel edges* GEOGRAPHY LINK: To be able to identify some of the world's biomes, locate them on a world map and compare their climates. **Position & Direction** • describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down

	• complete a simple symmetric figure with respect to a specific line of symmetry		• plot specified points and draw sides to complete a given polygon
			Weeks 7-9 (according to need)
			• identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry
		Weeks 11-12	
		• identify acute and obtuse angles and compare and order angles up to two right angles by size	
Multiplication and Division	**Weeks 6-8**	**Weeks 4-5 and Weeks 7-8**	**Week 7-9 (according to need)**
	• 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	• 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	• 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 *e.g. 600 ÷ 3 = 200; 4 × 6 × 2* • recognise and use factor pairs and commutativity in mental calculations *e.g. factor pairs of 20 are 1 and 20, 2 and 10, 4 and 5; addition and multiplication are commutative e.g. 2×6×5=2×5×6=10×6* • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit *e.g. 34 × 6 = (30 ×6) + (4 × 6),* integer scaling problems and harder correspondence problems such as n objects are connected to m objects e.g. 3 skirts and 4 tops, how many different outfits?	by 1; multiplying together three numbers *e.g. 420 = 70 × 6; 5 × 4 × 9* • recognise and use factor pairs and commutativity in mental calculations *e.g. factor pairs of 12 are 1 and 12, 2 and 6, 4 and 3; addition and multiplication are commutative e.g. 2×6×5=2×5×6=10×6* • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit *e.g. 74 × 7 = (70 ×7) + (4 × 7),* integer scaling problems and harder correspondence problems such as n objects are connected to m objects. *e.g. the number of different choices on a menu*	by 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • 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
Fractions and Decimals	**Weeks 6-8**	**Weeks 4-5**	**Week 6**
	• recognise and show, using diagrams, families of common equivalent fractions	• recognise and write decimal equivalents of any number of tenths or hundredths	• round decimals with one decimal place to the nearest whole number

	• count up and down in hundredths *e.g.* $^{3}/_{10} = {}^{30}/_{100} = 0.30 = 0.3$; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten. • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number *e.g. find* $^{4}/_{9}$ *of 18 counters* • add and subtract fractions with the same denominator *e.g.* $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5}$ • recognise and write decimal equivalents of any number of tenths or hundredths *e.g.* $^{9}/_{10} = 0.9$; $^{9}/_{100} = 0.09$ • recognise and write decimal equivalents to 1/4; 1/2; 3/4 • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths • round decimals with one decimal place to the nearest whole number *e.g. 32.5 rounds to 33; 49.7 rounds to 50*	• recognise and write decimal equivalents to 1/4; 1/2; 3/4 • solve simple measure and money problems involving fractions and decimals to two decimal places *e.g. A piece of ribbon is 2.45m long. It is cut into two pieces. Once piece is 1.03m long. How long is the second piece of ribbon?* **Weeks 9-10** • recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten *e.g.* $^{4}/_{10} = {}^{40}/_{100} = 0.40 = 0.4$ • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number *e.g.* $^{1}/_{5}$ *of ____ is 9* • add and subtract fractions with the same denominator e.g. $^{4}/_{6} + {}^{3}/_{6} = {}^{7}/_{6} = 1^{1}/_{6}$	• compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places *e.g. Ben buys a toy costing £4.55 and ¼ kg of sweets costing £3.20 per kilo; how much change does he receive from £10?* **Week 7-9 (according to need)** • recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number • add and subtract fractions with the same denominator

	• compare numbers with the same number of decimal places up to two decimal places *e.g. put in order: 2.56, 26.52, 2.65, 25.62, 2.62* • solve simple measure and money problems involving fractions and decimals to two decimal places *e.g. two parcels weigh 5.5kg altogether, one weighs 3.8kg, what is the mass of the other?*	• recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to 1/4; 1/2; 3/4	• recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to 1/4, 1/2, ¾ • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places
Statistics	**Weeks 9-12**	**Weeks 11-12**	**Weeks 7-9 (according to need)**
	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs *e.g. height of a sunflower plant, measured daily for 2 weeks* • solve comparison, sum and difference problems using information presented in bar	GEOGRAPHY LINK: 2-week fieldwork study – design and carry out a survey of land use in the local area • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar	SCIENCE LINK: To be able to use my results to draw simple conclusions, make predictions for new values and suggest improvements. To be able to record my findings in different ways, using diagrams, drawings and tables. • interpret and present discrete and continuous data using appropriate graphical

<table>
<tr><td></td><td>charts, pictograms, tables and other graphs</td><td>charts, pictograms, tables and other graphs.</td><td>methods, including bar charts and time graphs
• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</td></tr>
<tr><td></td><td colspan="3">Summer Term Weeks 10-12</td></tr>
<tr><td></td><td colspan="3">Working Towards Y5

Number and place value
Pupils should be taught to:

• read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
• count forwards or backwards in steps of powers of 10 for any given number up to 1000 000
• interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
• round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
• solve number problems and practical problems that involve all of the above

Multiplication and division
Pupils should be taught to:

• identify multiples and factors, including finding all factor pairs of a number, and common factors of two number
• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
• establish whether a number up to 100 is prime and recall prime numbers up to 19
• multiply and divide numbers mentally drawing upon known facts
• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Fractions and Decimals
Pupils should be taught to:

• compare and order fractions whose denominators are all multiples of the same number</td></tr>
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	• identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 and 1/5] • add and subtract fractions with the same denominator and denominators that are multiples of the same number diagrams • read and write decimal numbers as fractions [for example, 0.71 = 10071] • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place