Year 3 Maths Curriculum

Patrington CHURCH OF ENGLAND PRIMARY ACADEMY

We are a caring Christian community, striving to be the best that we can be. Everyone belongs, everyone cares, everyone tries.

Legend:
- Number and place value
- Number facts
- Addition and Subtraction
- Multiplication and division
- Fractions
- Geometry
- Other

Y3	1	2	3	4	5	6	7	8	9	10	11	12	13
C1	**Unit 1**		**Unit 2**										Consolidation
	Adding and subtracting across 10		Numbers to 1,000										
FF	Adding 1 Commutative: 7 +1 and 1 +7	Doubles of numbers to 5 1+1, 2+2, 3+3, 4+4, 5+5	Adding 2 Commutative: 7 +2 and 2 +7	Number bonds to 10 Commutative: 0+10, 1+9, 2+8, 3+7, 4+6		Adding 10 To single digits	Adding 0	The ones without a family 3 +5, 5+3, 3+6, 6+3	Near Doubles within 10 3+4 4+3, 4+5, 5+4	Doubles of numbers to 10 6+6, 7+7, 8+8, 9+9, 10+10	Near doubles bridging 10 5+6, 6+5, 6+7, 7+6	Near doubles bridging 10 7+8, 8+7, 8+9, 9+8	Bridging 10 3+8, 8+3 3+9, 9+3 9+8
C2	**Unit 3** Right angles		**Unit 4** Manipulating the additive relationship and securing mental calculation				**Unit 5** Column addition		**Unit 6** 2, 4, 8 times tables			**Unit 7** Column subtraction	

FF	Bridging 10 4+7, 7+4, 4+8, 8+4, 4+9, 9+4	Bridging 10 5+7, 7+5, 5+8, 8+5, 5+9, 9+5	Bridging 10 6+8, 8+6, 6+9, 9+6	All additive facts mix	2 times table (multiplier first)	2 times table (multiplier first or second)	2 times table (division facts added in)	2 times table	2 times table	5 times table (2x5 to 6x 5)	5 times table (2x5 to 6x 5)	5 times table (7x5 to 9x5)	5 times table (all)
C3	Unit 8 Unit fractions				Unit 9 Non-unit fractions					Unit 10 Parallel and perpendicular sides in polygons		Unit 11 Time	Consolidation
FF	5 times table (all) and 2tt	4 times table (2 x4 to 6x4)	4 times table (7 x4 to 9x4)	4 times table all facts comm and division facts	2, 4, 5tt facts comm and division facts	2, 4, 5tt facts comm and division facts	2, 4, 5tt facts comm and division facts	10 times table	10 times table	2,4,5,10 tt with comm and division facts	2,4,5,10 tt with comm and division facts	Consolidation and revisit	Consolidation and revisit

Year 3	NC Objectives which feature in each unit
Adding and subtracting across 10 • **2AS–1 Add and subtract across 10.** • **3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.** • 1.11 Addition and subtraction: bridging 10	**Number – Addition and Subtraction** **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 • adding three one-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (NC Y2 NCETM Y3) **Non Statutory Notes** NAS - Pupils extend their understanding of the language of addition and subtraction to include sum and difference. NAS - Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using 3 + 7 = 10; 10 – 7 = 3 and 7 = 10 – 3 to calculate 30 + 70 = 100; 100 – 70 = 30 and 70 = 100 – 30. They check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (for example, 5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5). This establishes commutativity and associativity of addition.
Numbers to 1,000 • **3NPV–1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.**	**Number – 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)

2	• **3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.** • **3NPV–3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.** • **3NPV–4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.** • **3AS–1 Calculate complements to 100.** • **3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).** • 1.17 Composition and calculation: 100 and bridging 100 • 1.18 Composition and calculation: three-digit numbers	• 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 **Number Addition and Subtraction** • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (NC Y2 NCETM Y3) **Measurement** • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) **Non Statutory Notes** NPV - Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100. NPV - They use larger numbers to at least 1000, applying partitioning related to place value using varied and increasingly complex problems, building on work in year 2 (for example, 146 = 100 + 40 and 6, 146 = 130 + 16). NPV - Using a variety of representations, including those related to measure, pupils continue to count in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000. M - Pupils continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm).
3	**Right angles** • **3G–1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.**	**Geometry – Properties of Shape** • recognise angles as 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
4	**Manipulating the additive relationship and securing mental calculation** • **3AS–3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.** • 1.19 Securing mental strategies: calculation up to 999	**Number - Addition and Subtraction** • add and subtract numbers mentally, including • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds • 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 **Non Statutory Notes** NAS - Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100. NAS - Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.

5	**Column addition** • **3AS–2 Add and subtract up to three-digit numbers using columnar methods.** • 1.20 Algorithms: column addition	**Number - Addition and Subtraction** ● 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 **Non Statutory Notes** NAS - Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent (see Mathematics Appendix 1).
6	**2, 4, 8 times tables** • **3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.** • **3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.** • **3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).** • 2.7 Times tables: 2, 4 and 8, and the relationship between them	**Number – Multiplication and Division** ● recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables (3x table NC Y3 NCETM Y4) ● write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, **Non Statutory Notes** NMD - Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100. (3x table NC Y3 NCETM Y4) NMD - Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.
7	**Column subtraction** • **3AS–2 Add and subtract up to three-digit numbers using columnar methods.** • 1.21 Algorithms: column subtraction	**Number - Addition and Subtraction** ● 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 **Non Statutory Notes** NAS - Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent (see Mathematics Appendix 1).
8	**Unit fractions** • **3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.** • **3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency).** • 3.1 Preparing for fractions: the part–whole relationship • 3.2 Unit fractions: identifying, representing and comparing	**Number - Fractions** ● recognise, find and write fractions of a discrete set of objects: unit fractions and non unit fractions with small denominators ● recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators ● compare and order unit fractions, and fractions with the same denominators ● add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] ● solve problems that involve all of the above. **Non Statutory Notes** NF - Pupils make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. (NC Y4 NCETM Y3) NF - They begin to understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. They should go beyond the [0, 1] interval, including relating this to measure. NF - Pupils understand the relation between unit fractions as operators (fractions of), and division by integers. NF - They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity.

9	**Non-unit fractions** • **3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.** • **3F–3 Reason about the location of any fraction within 1 in the linear number system.** • **3F–4 Add and subtract fractions with the same denominator, within 1.** • 3.3 Non-unit fractions: identifying, representing and comparing • 3.4 Adding and subtracting within one whole	**Number - Fractions** ● recognise, find and write fractions of a discrete set of objects: unit fractions and non unit fractions with small denominators ● recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators ● compare and order unit fractions, and fractions with the same denominators ● add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] ● solve problems that involve all of the above. **Non Statutory Notes** NF - Pupils make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. (NC Y4 NCTM Y3) NF - They begin to understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. They should go beyond the [0, 1] interval, including relating this to measure. NF - They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity. NF - Pupils practise adding and subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency.
10	**Parallel and perpendicular sides in polygons** • 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	**Geometry – Properties of Shape** ● draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them ● identify horizontal and vertical lines and pairs of perpendicular and parallel lines **Non Statutory Notes** GPS - Pupils' knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygons and polyhedra. Pupils extend their use of the properties of shapes. They should be able to describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle.
11	**Time** • This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery PD Materials.	**Measurement** ● tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks ● estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, 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]. **Non Statutory Notes** M - Pupils use both analogue and digital 12-hour clocks and record their times. In this way they become fluent in and prepared for using digital 24-hour clocks in year 4.