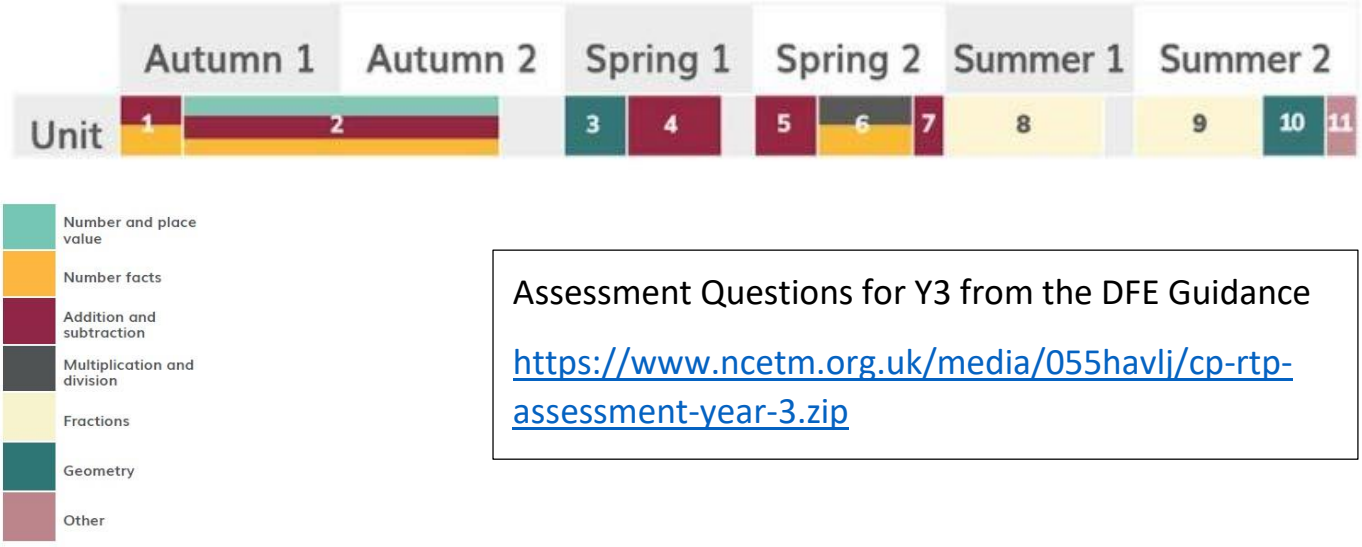
Year 3 NCETM Curriculum Map 2022



Assessment Questions for Y3 from the DFE Guidance

https://www.ncetm.org.uk/media/055havlj/cp-rtp-assessment-year-3.zip

Unit 1	**Adding and subtracting across 10**
RtPs	**2AS–1 Add and subtract across 10.**
	3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
NCETM spine ref.	**1.11 Addition and subtraction: bridging 10**
Small step learning outcomes	1 Pupils add 3 addends 2 Pupils use a 'First.. Then… Now" story to add 3 addends 3 Pupils explain that addends can be added in any order 4 Pupils add 3 addends efficiently 5 Pupils add 3 addends efficiently by finding two addends that total 10 6 Pupils add two numbers that bridge through 10 7 Pupils subtract two numbers that bridge through 10
Download Links	***Classroom Slides*** https://www.ncetm.org.uk/media/sllf5trw/cp-year-3-unit-1-adding-and-subtracting-across-10.pptx ***Specific RtP Link*** 2AS-1 Page 57 3NF-1 Page 98 ***Spine Materials Teacher Guidance*** https://www.ncetm.org.uk/media/x51ltghh/ncetm_mm_sp1_y2_se11_teach_final-ys2.pdf#page=4

Unit 2	Numbers to 1,000
RtPs	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. 3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and nonstandard 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).
NCETM spine ref.	1.17 Composition and calculation: 100 and bridging 100 1.18 Composition and calculation: three-digit numbers

Small step learning outcomes	1 Pupils explain that 100 is composed of ten tens and one hundred ones 2 Pupils explain that 100 is composed of 50s 25s and 20s 3 Pupils use known facts to find multiples of ten that compose 100 4 Pupils will use known facts to find a two-digit number and a one- or two-digit number that compose 100 5 Pupils use known facts to find correct complements to 100 6 Pupils use known facts to find complements to 100 accurately and efficiently 7 Pupils represent a three-digit number which is a multiple of ten using their numerals and names 8 Pupils use place value knowledge to write addition and subtraction equations 9 Pupils bridge 100 by adding or subtracting in multiples of ten 10 Pupils use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems 11 Pupils count across and on from 100 12 Pupils represent a three-digit number up to 199 in different ways 13 Pupils bridge 100 by adding or subtracting a single-digit number 14 Pupils find ten more or ten less than a given number 15 Pupils cross the hundreds boundary when adding and subtracting any two-digit multiple of ten 16 Pupils become familiar with a metre ruler (marked and unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm) 17 Pupils measure length and height from zero using whole metres and cm 18 Pupils measure length and height from zero using cm 19 Pupils convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa) 20 Pupils become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm) 21 Pupils measure length from zero using mm / whole cm and mm 22 Pupils convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa) 23 Pupils estimate a length/height, measure a length/height and record in a table 24 Pupils use knowledge of place value to represent a three-digit number in different ways 25 Pupils represent a three-digit number up to 1000 in different ways 26 Pupils use knowledge of the additive relationship to solve problems 27 Pupils count in hundreds and tens on a number line 28 Pupils identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten 29 Pupils position three-digit numbers on number lines 30 Pupils estimate the position of three-digit numbers on unmarked number lines 31 Pupils compare one-, two- and three-digit numbers 32 Pupils compare two three-digit numbers 33 Pupils order sets of three-digit numbers 34 Pupils use known facts to add or subtract multiples of 100 within 1000 35 Pupils write a three-digit multiple of 10 as a multiplication equation
	36 Pupils partition three-digit numbers in different ways 37 Pupils use known facts to solve problems involving partitioning numbers 38 Pupils use known facts to add or subtract to/from multiples of 100 in tens 39 Pupils use known facts to add or subtract to/from multiples of 100 in ones 40 Pupils add/subtract multiples of ten bridging 100 41 Pupils add/subtract to/from a three-digit number in ones bridging 100 42 Pupils find 10 more or less across any hundreds boundary 43 Pupils use knowledge of adding or subtracting to/from three-digit numbers to solve problems 44 Pupils count forwards and backwards in multiples of 2, 20, 5, 50 and 25 45 Pupils use knowledge of counting in multiples of 2, 20, 5, 50 and 25 to solve problems 46 Pupils become familiar with different weighing scales up to 1kg (intervals of 100g, 200g, 250g and 500g) 47 Pupils become familiar with the tools to measure volume and capacity up to 1 litre (intervals of 100ml, 200ml, 250ml and 500ml) 48 Pupils measure mass from zero up to 1kg using grams 49 Pupils measure mass from zero above 1kg using whole kg and grams 50 Pupils measure volume from zero up to 1 litre using ml 51 Pupils measure volume from zero above 1 litre using whole litres and ml 52 Pupils estimate mass in grams and volume in ml 53 Pupils estimate a mass/volume, measure a mass/volume and record in a table

Download Links	***Classroom Slides*** https://www.ncetm.org.uk/media/vcbdy14x/cp-year-3-unit-2-numbers-to-1000.pptx ***Specific RtP Link*** 3NPV-1 Page 86 3NPV-2 Page 88 3NPV-3 Page 91 3NPV-4 Page 95 3NF-3 Page 103 3AS-1 Page 106 ***Spine Materials Teacher Guidance*** https://www.ncetm.org.uk/media/swrp35kl/ncetm_mm_sp1_y3_se17_teach.pdf#page=5 https://www.ncetm.org.uk/media/ijogstuu/ncetm_mm_sp1_y3_se18_teach.pdf#page=4

Unit 3	**Right angles**
RtPs	**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.**
NCETM spine ref.	**No NCETM Spine** Refer to White Rose Maths Year 3 Scheme of Learning, Summer Block 3, Properties of Shape
Small step learning outcomes	1 Pupils rotate two lines around a fixed point to make different sized angles 2 Pupils draw triangles and quadrilaterals and identify vertices 3 Pupils learn that a right angle is a 'square corner' and identify them in the environment 4 Pupils learn that a rectangle is a 4-sided polygon with four right angles 5 Pupils learn that a square is a rectangle in which the four sides are equal length 6 Pupils cut rectangles and squares on the diagonal and investigate the shapes they make 7 Pupils join four right angles at a point using different right-angled polygons 8 Pupils investigate and draw other polygons with right angles
Download Links	**White Rose Maths Summer, Block 3, Properties of Shape Scheme of Learning** https://assets.whiterosemaths.com/resources-2022/year-3/summer-block-3-properties-of-shape/Year-3-Summer-Block-3-Properties-of-Shape.pdf ***Classroom Slides*** https://www.ncetm.org.uk/media/0dhjw5cg/cp-year-3-unit-3-right-angles.pptx ***Specific RtP Link*** 3G-1 Page 134 ***Spine Materials Teacher Guidance*** No spine for geometry

Unit 4	**Manipulating the additive relationship and securing mental calculation**
RtPs	**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.**
NCETM spine ref.	**1.19 Securing mental strategies: calculation up to 999**

Small step learning outcomes	1 Pupils add 3 addends 2 Pupils add two 3-digit numbers using adjusting 3 Pupils add a pair of 2- or 3-digit numbers using redistribution 4 Pupils subtract a pair of 2- or 3-digit numbers, bridging a multiple of 10, using partitioning 5 Pupils subtract a pair of 2-digit numbers, crossing a ten or hundreds boundary, by finding the difference between them 6 Pupils subtract a pair of three-digit multiples of 10 within 1000 by finding the difference between them 7 Pupils evaluate the efficiency of strategies for subtracting from a 3-digit number 8 Pupils explain why the order of addition and subtraction steps in a multi-step problem can be chosen 9 Pupils accurately and efficiently solve multi-step addition and subtraction problems 10 Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (2-digit numbers) 11 Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (3-digit numbers) 12 Pupils use knowledge of the additive relationship to rearrange equations 13 Pupils use knowledge of the additive relationship to identify what is known and what is unknown in an equation 14 Pupils use knowledge of the additive relationship to rearrange equations before solving 15 Pupils rearrange missing number equations and use knowledge of the additive relationship to solve the problem
Download Links	***Classroom Slides*** https://www.ncetm.org.uk/media/4orbf0xp/cp-year-3-unit-4-manipulating-the-additive-relationshipand-securing-mental-calculation.pptx ***Specific RtP Link*** 3AS-3 Page 103 ***Spine Materials Teacher Guidance*** https://www.ncetm.org.uk/media/wnzdz2hd/ncetm_mm_sp1_y3_se19_teach.pdf#page=5

Unit 5	**Column addition**
RtPs	**3AS–2 Add and subtract up to three-digit numbers using columnar methods.**
NCETM spine ref.	**1.20 Algorithms: column addition**
Small step learning outcomes	1 Pupils identify the addends and the sum in column addition 2 Pupils use their knowledge of place value to correctly lay out column addition 3 Pupils add a pair of 2-digit numbers using column addition 4 Pupils add using column addition 5 Pupils use their knowledge of column addition to solve problems 6 Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column 7 Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column 8 Pupils add using column addition with regrouping 9 Pupils use known facts and strategies to accurately and efficiently calculate and check column addition 10 Pupils use their knowledge of column addition to solve problems
Download Links	***Classroom Slides*** https://www.ncetm.org.uk/media/rjbjjo5b/cp-year-3-unit-5-column-addition.pptx ***Specific RtP Link*** 3AS-2 page 109 ***Spine Materials Teacher Guidance*** https://www.ncetm.org.uk/media/a0ohgpky/ncetm_mm_sp1_y3_se20_teach.pdf#page=4

Unit 6	2, 4, 8 times tables
RtPs	**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).**
NCETM spine ref.	**2.6 Structures: quotitive and partitive division**
Small step learning outcomes	1 Pupils represent counting in fours as the 4 times table 2 Pupils use knowledge of the 4 times table to solve problems 3 Pupils explain the relationship between adjacent multiples of four 4 Pupils explain the relationship between multiples of 2 and multiples of 4 5 Pupils use knowledge of the relationships between the 2 and 4 times tables to solve problems 6 Pupils represent counting in eights as the 8 times table 7 Pupils explain the relationship between adjacent multiples of eight 8 Pupils explain the relationship between multiples of 4 and multiples of 8 9 Pupils use knowledge of the relationships between the 4 and 8 times tables to solve problems 10 Pupils explain the relationship between multiples of 2, 4 and multiples of 8 11 Pupils use knowledge of the relationships between the 2, 4 and 8 times tables to solve problems 12 Pupils use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems 13 Pupils use knowledge of the divisibility rules for divisors of 8 to solve problems 14 Pupils scale known multiplication facts by 10 15 Pupils scale division derived from multiplication facts by 10
Download Links	***Classroom Slides*** https://www.ncetm.org.uk/media/j2rpznw0/cp-year-3-unit-6-2-4-8-times-tables.pptx ***Specific RtP Link*** 3NF-2 Page 100 3MD-1 Page 117 3NF-3 Page 103 ***Spine Materials Teacher Guidance*** https://www.ncetm.org.uk/media/ciykxwgy/ncetm_spine2_segment07_y3.pdf#page=4

Unit 7	Column subtraction
RtPs	**3AS–2 Add and subtract up to three-digit numbers using columnar methods.**
NCETM spine ref.	**1.21 Algorithms: column subtraction**
Small step learning outcomes	1 Pupils identify the minuend and the subtrahend in column subtraction 2 Pupils explain the column subtraction algorithm 3 Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones 4 Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1) 5 Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (2) 6 Pupils evaluate the efficiency of strategies for subtraction
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Unit 8	Unit fractions
RtPs	**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).**
NCETM spine ref.	**3.1 Preparing for fractions: the part–whole relationship** **3.2 Unit fractions: identifying, representing and comparing**
Small step learning outcomes	1 Pupils identify a whole and the parts that make it up 2 Pupils explain why a part can only be defined when in relation to a whole 3 Pupils identify the number of equal or unequal parts in a whole 4 Pupils identify equal parts when they do not look the same (i) 5 Pupils explain the size of the part in relation to the whole 6 Pupils construct a whole when given a part and the number of parts 7 Pupils identify how many equal parts a whole has been divided into 8 Pupils use fraction notation to describe an equal part of the whole 9 Pupils represent a unit fractions in different ways 10 Pupils identify parts and wholes in different contexts (i) 11 Pupils identify parts and wholes in different contexts (ii) 12 Pupils identify equal parts when they do not look the same (ii) 13 Pupils compare and order unit fractions by looking at the denominator 14 Pupils identify when unit fractions cannot be compared 15 Pupils construct a whole when given one part and the fraction that it represents 16 Pupils use knowledge of the relationship between parts and wholes in unit fractions to solve problems 17 Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction 18 Pupils quantify the number of items in each part and connect to the unit fraction operator 19 Pupils calculate the value of a part by using knowledge of division and division facts 20 Pupils calculate the value of a part by connecting knowledge of division and division facts with finding a fraction of a quantity 21 Pupils find fractions of quantities using knowledge of division facts with increasing fluency
Download Links	***Classroom Slides*** https://www.ncetm.org.uk/media/hgpnbdp4/cp-year-3-unit-8-unit-fractions.pptx ***Specific RtP Link*** 3F-1 Page 120 3F-2 Page 124 ***Spine Materials Teacher Guidance*** https://www.ncetm.org.uk/media/1qyn40y1/ncetm_spine3_segment01_y3.pdf#page=4 https://www.ncetm.org.uk/media/3fbfwvyc/ncetm_spine3_segment02_y3.pdf#page=4

Unit 9	Non-unit fractions
RtPs	**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.**
NCETM spine ref.	**3.3 Non-unit fractions: identifying, representing and comparing** **3.4 Adding and subtracting within one whole**

Small step learning outcomes	1 Pupils explain that non-unit fractions are composed of more than one unit fraction 2 Pupils identify non-unit fractions 3 Pupils identify the number of equal or unequal parts in a whole 4 Pupils use knowledge of non-unit fractions to solve problems 5 Pupils use knowledge of unit fractions to find one whole 6 Pupils place fractions between 0 and 1 on a numberline 7 Pupils use repeated addition of a unit fraction to form a non-unit fraction 8 Pupils use repeated addition of a unit fraction to form 1 9 Pupils compare using knowledge of non-unit fractions equivalent to one 10 Pupils compare non-unit fractions with the same denominator 11 Pupils compare unit fractions 12 Pupils compare fractions with the same numerator 13 Pupils add up fractions with the same denominator 14 Pupils add on fractions with the same denominator 15 Pupils add fractions with the same denominator using a generalised rule 16 Pupils subtract fractions with the same denominator 17 Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction 18 Pupils explain that addition and subtraction of fractions are inverse operations 19 Pupils subtract fractions from a whole by converting the whole to a fraction 20 Pupils represent a whole as a fraction in different ways and use this to solve problems involving subtraction
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Unit 10	Parallel and perpendicular sides in polygons
RtPs	**3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.**
NCETM spine ref.	**No NCETM Spine** Refer to White Rose Maths Year 3 Scheme of Learning, Summer Block 3, Properties of Shape
Small step learning outcomes	1 Pupils make compound shapes by joining two polygons in different ways (same parts, different whole) 2 Pupils investigate different ways of composing and decomposing a polygon (same whole, different parts) 3 Pupils draw polygons on isometric paper 4 Pupils use geostrips to investigate quadrilaterals with and without parallel and perpendicular sides 5 Pupils make and draw compound shapes with and without parallel and perpendicular sides 6 Pupils learn to extend lines and sides to identify parallel and perpendicular lines 7 Pupils make and draw triangles on circular geoboards 8 Pupils make and draw quadrilaterals on circular geoboards 9 Pupils draw shapes with given properties on a range of geometric grids
Download Links	**White Rose Maths Summer, Block 3, Properties of Shape** **Scheme of Learning** https://assets.whiterosemaths.com/resources-2022/year-3/summer-block-3-properties-of-shape/Year-3-Summer-Block-3-Properties-of-Shape.pdf ***Classroom Slides*** https://www.ncetm.org.uk/media/qpncqvat/cp-year-3-unit-10-parallel-and-perpendicular-sides-inpolygons.pptx ***Specific RtP Link*** 3G-2 Page 137 ***Spine Materials Teacher Guidance*** No spine for geometry

Unit 11	Time
RtPs	**This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery PD Materials.**
NCETM spine ref.	**No NCETM Spine** Refer to White Rose Maths Year 3 Scheme of Learning, Summer Block 2, Time
White Rose Small Steps	As there are no NCETM small step learning outcomes for this unit, use the national curriculum guidance below and the White Rose Maths small steps. **National curriculum statutory requirements (p21)** Pupils should be taught to: • 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]. Notes and guidance (non-statutory) • 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 **White Rose Maths Year 3 Summer, Block 2, Time**

	O'clock and half past (R) Quarter past and quarter to (R) Months and years Hours in a day Telling the time to 5 minutes Telling the time to the minute Using a.m. and p.m. 24-hour clock Finding the duration Comparing durations Start and end times Measuring time in seconds
Download Links	**White Rose Maths Year 3 Summer, Block 2, Time Scheme of Learning** https://assets.whiterosemaths.com/resources-2022/year-3/summer-block-2-time/Year-3-Summer-Block-2-Time.pdf **Premium Resources** https://whiterosemaths.com/resources?year=year-3 No slides available but see NCETM's website for further ideas https://www.ncetm.org.uk/classroom-resources/cp-year-3-unit-11-time/ ***Specific RtP Link*** This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery PD Materials. ***Spine Materials Teacher Guidance*** No spine guidance