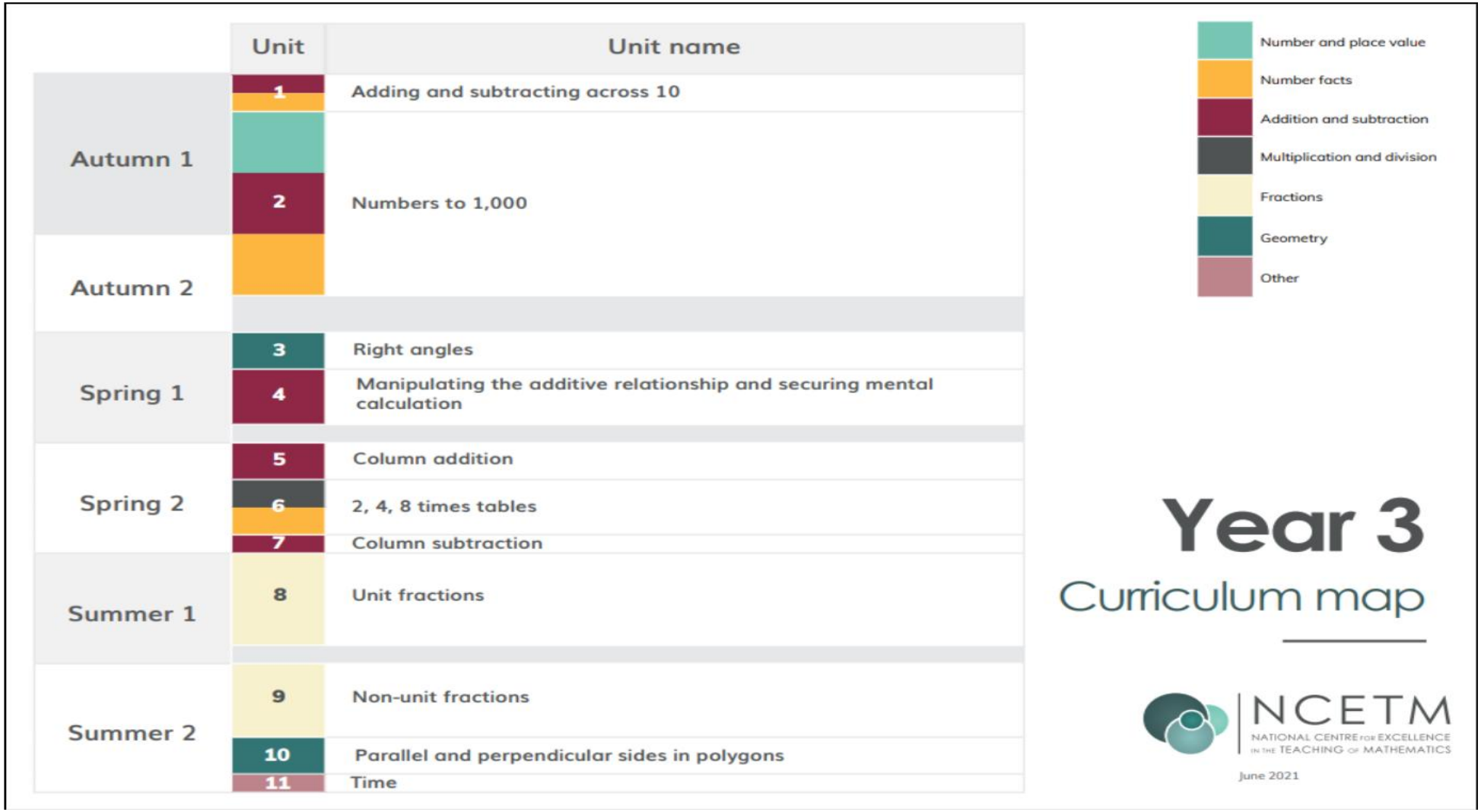
Mathematics

Year 3 Planning

This is a working document - Teachers make changes, where appropriate, based on term dates/events and both formative and summative assessment.

Follow the link below to access the interactive copy of this curriculum map. Click on the domain to download the learning objectives for each domain.

https://www.ncetm.org.uk/classroom-resources/cp-year-3-curriculum-map/



Year 3

1 — 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

2 — 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.
- 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

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.

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

5 — Column addition
- 3AS–2 Add and subtract up to three-digit numbers using columnar methods.
- 1.20 Algorithms: column addition

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

7 — Column subtraction
- 3AS–2 Add and subtract up to three-digit numbers using columnar methods.
- 1.21 Algorithms: column subtraction

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

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

10 — Parallel and perpendicular sides in polygons
- 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.

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.

Number and place value
Number facts
Addition and subtraction
Multiplication and division
Fractions
Geometry
Other

Dark grey references are ready-to-progress criteria from the DfE Guidance 2020

Light grey references are from the NCETM Primary Mastery Professional Development materials

Both are available online

Year 3 Autumn Term NCETM CP

	Week 1 - Week 2	Week 3 – Week 12			Week 13 – Week 15
	Unit 1: Adding & Subtracting Across 10 (Y2 unit)	Unit 2: Numbers to 1,000			Unit 3: Right Angles
NCETM CP Small Steps	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils add 3 addends **Step 2:** Pupils use a 'First.. Then… Now" story to add 3 addends **Step 3:** Pupils explain that addends can be added in any order **Step 4:** Pupils add 3 addends efficiently **Step 5:** Pupils add 3 addends efficiently by finding two addends that total 10 **Step 6:** Pupils add two numbers that bridge through 10 **Step 7:** Pupils subtract two numbers that bridge through 10 **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain that 100 is composed of ten tens and one hundred ones **Step 2**: Pupils explain that 100 is composed of 50s 25s and 20s **Step 3:** Pupils use known facts to find multiples of ten that compose 100 **Step 4:** Pupils will use known facts to find a two-digit number and a one- or two-digit number that compose 100 **Step 5:** Pupils use known facts to find correct complements to 100 **Step 6**: Pupils use known facts to find complements to 100 accurately and efficiently **Step 7:** Pupils represent a three-digit number which is a multiple of ten using their numerals and names **Step 8**: Pupils use place value knowledge to write addition and subtraction equations **Step 9:** Pupils bridge 100 by adding or subtracting in multiples of ten **Step 10:** Pupils use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems **Step 11:** Pupils count across and on from 100 **Step 12:** Pupils represent a three-digit number up to 199 in different ways **Step 13:** Pupils bridge 100 by adding or subtracting a single-digit number **Step 14:** Pupils find ten more or ten less than a given number **Step 15:** Pupils cross the hundreds boundary when adding and subtracting any two-digit multiple of ten **Step 16:** Pupils become familiar with a metre ruler (marked and unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm)	**Step 19**: Pupils convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa) **Step 20:** Pupils become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm) **Step 21:** Pupils measure length from zero using mm / whole cm and mm **Step 22:** Pupils convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa) **Step 23**: Pupils estimate a length/height, measure a length/height and record in a table **Step 24:** Pupils use knowledge of place value to represent a three-digit number in different ways **Step 25:** Pupils represent a three-digit number up to 1000 in different ways **Step 26:** Pupils use knowledge of the additive relationship to solve problems **Step 27:** Pupils count in hundreds and tens on a number line **Step 28:** Pupils identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten **Step 29:** Pupils position three-digit numbers on number lines **Step 30:** Pupils estimate the position of three-digit numbers on unmarked number lines **Step 31:** Pupils compare one-, two- and three-digit numbers **Step 32:** Pupils compare two three-digit numbers **Step 33:** Pupils order sets of three-digit numbers **Step 34:** Pupils use known facts to add or subtract multiples of 100 within 1000 **Step 35:** Pupils write a three-digit multiple of 10 as a multiplication equation	**Step 37:** Pupils use known facts to solve problems involving partitioning numbers **Step 38:** Pupils use known facts to add or subtract to/from multiples of 100 in tens **Step 39:** Pupils use known facts to add or subtract to/from multiples of 100 in ones **Step 40:** Pupils add/subtract multiples of ten bridging 100 **Step 41:** Pupils add/subtract to/from a three-digit number in ones bridging 100 **Step 42:** Pupils find 10 more or less across any hundreds boundary **Step 43:** Pupils use knowledge of adding or subtracting to/from three-digit numbers to solve problems **Step 44:** Pupils count forwards and backwards in multiples of 2, 20, 5, 50 and 25 **Step 45:** Pupils use knowledge of counting in multiples of 2, 20, 5, 50 and 25 to solve problems **Step 46:** Pupils become familiar with different weighing scales up to 1kg (intervals of 100g, 200g, 250g and 500g) **Step 47:** Pupils become familiar with the tools to measure volume and capacity up to 1 litre (intervals of 100ml, 200ml, 250ml and 500ml) **Step 48:** Pupils measure mass from zero up to 1kg using grams **Step 49:** Pupils measure mass from zero above 1kg using whole kg and grams **Step 50:** Pupils measure volume from zero up to 1 litre using ml **Step 51:** Pupils measure volume from zero above 1 litre using whole litres and ml **Step 52:** Pupils estimate mass in grams and volume in ml **Step 53:** Pupils estimate a mass/volume, measure a mass/volume and record in a table **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils rotate two lines around a fixed point to make different sized angles **Step 2:** Pupils draw triangles and quadrilaterals and identify vertices **Step 3:** Pupils learn that a right angle is a 'square corner' and identify them in the environment **Step 4:** Pupils learn that a rectangle is a 4-sided polygon with four right angles Step 5: Pupils learn that a square is a rectangle in which the four sides are equal length **Step 6:** Pupils cut rectangles and squares on the diagonal and investigate the shapes they make **Step 7:** Pupils join four right angles at a point using different right-angled polygons **Step 8:** Pupils investigate and draw other polygons with right angles **POST ASSESSMENT and ADDRESS GAPS**

		Step 17: Pupils measure length and height from zero using whole metres and cm **Step 18:** Pupils measure length and height from zero using cm	**Step 36:** Pupils partition three-digit numbers in different ways			
Prior Learning Assessment Criteria	**2AS–1** Add and subtract across 10.	**2NPV–1** Recognise the place value of each digit in two-digit numbers and compose and decompose two-digit numbers using standard and non-standard partitioning. **2NPV–2** Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10				
RTP Assessment Criteria	**2AS–1** Add and subtract across 10. **3NF-1** Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	**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 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. **3NF-3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10) **3AS-1** Calculate complements to 100		**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.	
Problem Solving	Engage with mathematical activities and problems, making links and moving between different representations (concrete, pictorial, abstract). Independently choose to scaffold thinking using concrete, pictorial or abstract representations, if required. Independently choose to represent thinking using concrete, pictorial or abstract representations, as appropriate. Independently find an efficient way to solve a range of problems. Independently work systematically. Independently find possibilities using patterns spotted to support. Independently check and improve work (e.g. look for other possibilities, repeats, missing answers, errors and ways to improve). Pattern spot and predict what will come next in a pattern/sequence (numbers, shape or spatial). Independently investigate conjectures and provide examples and counter-examples. When they have solved a problem, pose a similar problem for a peer.		**EXS** For all mathematical concepts, ideas and techniques: Represent it in a variety of ways *(e.g. using concrete materials, pictures and symbols – the CPA approach).* Make up his or her own examples *(and non-examples)* of it. See connections between it and other facts or ideas. Recognise it in new situations and contexts. Make use of it in various ways, including in new situations.	**GDS** Solve problems of greater complexity *(i.e. where the approach is not immediately obvious),* demonstrating creativity and imagination. Independently explore and investigate mathematical contexts and structures.	

Reasoning	Provide a convinced argument. Reflect on others' convinced explanations and use this to improve their work. Edit and improve their own and a peer's convinced explanation. Investigate 'what if?' questions. Create 'what if?' questions.	Describe it in his or her own words. Explain it to someone else.	Communicate results clearly and systematically explain and generalise the mathematics.

The first Friday and the final Friday of each half term are to be Problem Solving lessons focussing on reasoning and problem solving: See school calendar for dates

Year 3 Spring Term NCETM CP

	Week 1 – Week 4	Week 5 – Week 6	Week 7 – Week 10	Week 11
	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**
NCETM CP Small Steps	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils add two 3-digit numbers using partitioning **Step 2:** Pupils add two 3-digit numbers using adjusting **Step 3:** Pupils add a pair of 2- or 3-digit numbers using redistribution **Step 4:** Pupils subtract a pair of 2- or 3-digit numbers, bridging a multiple of 10, using partitioning **Step 5:** Pupils subtract a pair of 2-digit numbers, crossing a ten or hundreds boundary, by finding the difference between them **Step 6:** Pupils subtract a pair of three-digit multiples of 10 within 1000 by finding the difference between them **Step 7:** Pupils evaluate the efficiency of strategies for subtracting from a 3-digit number **Step 8:** Pupils explain why the order of addition and subtraction steps in a multi-step problem can be chosen **Step 9:** Pupils accurately and efficiently solve multi-step addition and subtraction problems **Step 10:** Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (2-digit numbers) **Step 11:** Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (3-digit numbers) **Step 12:** Pupils use knowledge of the additive relationship to rearrange equations **Step 13:** Pupils use knowledge of the additive relationship to identify what is known and what is unknown in an equation **Step 14:** Pupils use knowledge of the additive relationship to rearrange equations before solving **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils identify the addends and the sum in column addition **Step 2:** Pupils use their knowledge of place value to correctly lay out column addition **Step 3:** Pupils add a pair of 2-digit numbers using column addition **Step 4:** Pupils add using column addition **Step 5:** Pupils use their knowledge of column addition to solve problems **Step 6:** Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column **Step 7:** Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column **Step 8:** Pupils add using column addition with regrouping **Step 9:** Pupils use known facts and strategies to accurately and efficiently calculate and check column addition **Step 10:** Pupils use their knowledge of column addition to solve problems **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1**: Pupils represent counting in fours as the 4 times table **Step 2:** Pupils use knowledge of the 4 times table to solve problems **Step 3:** Pupils explain the relationship between adjacent multiples of four **Step 4:** Pupils explain the relationship between multiples of 2 and multiples of 4 **Step 5:** Pupils use knowledge of the relationships between the 2- and 4-times tables to solve problems **Step 6:** Pupils represent counting in eights as the 8 times table **Step 7:** Pupils explain the relationship between adjacent multiples of eight **Step 8:** Pupils explain the relationship between multiples of 4 and multiples of 8 **Step 9:** Pupils use knowledge of the relationships between the 4- and 8-times tables to solve problems **Step 10:** Pupils explain the relationship between multiples of 2, 4 and multiples of 8 **Step 11:** Pupils use knowledge of the relationships between the 2-, 4- and 8-times tables to solve problems **Step 12:** Pupils use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems **Step 13:** Pupils use knowledge of the divisibility rules for divisors of 8 to solve problems **Step 14:** Pupils scale known multiplication facts by 10 **Step 15:** Pupils scale division derived from multiplication facts by 10 **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils identify the minuend and the subtrahend in column subtraction **Step 2**: Pupils explain the column subtraction algorithm **Step 3:** Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones **Step 4:** Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1) **Step 5:** Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (2) **Step 6:** Pupils evaluate the efficiency of strategies for subtraction **POST ASSESSMENT and ADDRESS GAPS**
Prior Learning Assessment Criteria			**1NF-2** Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	

RTP Assessment Criteria	**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.	**3AS-2** Add and subtract up to three-digit numbers using columnar methods.	**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. **3MD-1** Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. **3NF-3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10)	**3AS-2** Add and subtract up to three-digit numbers using columnar methods.	

Problem Solving	Engage with mathematical activities and problems, making links and moving between different representations (concrete, pictorial, abstract). Independently choose to scaffold thinking using concrete, pictorial or abstract representations, if required. Independently choose to represent thinking using concrete, pictorial or abstract representations, as appropriate. Independently find an efficient way to solve a range of problems. Independently work systematically. Independently find possibilities using patterns spotted to support. Independently check and improve work (e.g. look for other possibilities, repeats, missing answers, errors and ways to improve). Pattern spot and predict what will come next in a pattern/sequence (numbers, shape or spatial). Independently investigate conjectures and provide examples and counter-examples. When they have solved a problem, pose a similar problem for a peer.	**EXS** For all mathematical concepts, ideas and techniques: Represent it in a variety of ways *(e.g. using concrete materials, pictures and symbols – the CPA approach).* Make up his or her own examples *(and non-examples)* of it. See connections between it and other facts or ideas. Recognise it in new situations and contexts. Make use of it in various ways, including in new situations.	**GDS** Solve problems of greater complexity *(i.e. where the approach is not immediately obvious),* demonstrating creativity and imagination. Independently explore and investigate mathematical contexts and structures.
Reasoning	Provide a convinced argument. Reflect on others' convinced explanations and use this to improve their work. Edit and improve their own and a peer's convinced explanation. Investigate 'what if?' questions. Create 'what if?' questions.	Describe it in his or her own words. Explain it to someone else.	Communicate results clearly and systematically explain and generalise the mathematics.

The first Friday and the final Friday of each half term are to be Problem Solving lessons focussing on reasoning and problem solving: See school calendar for dates

Year 3 Summer Term NCETM CP

	Week 1 – Week 5	Week 6 – Week 10	Week 12 – Week 13	Unit to be taught throughout the year in basic skills/memory joggers etc

	Unit 8: Unit Fractions	Unit 9: Non-Unit Fractions	Unit 10: Parallel and Perpendicular Sides in Polygons	Unit 11: Time
NCETM CP Small Steps	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils identify a whole and the parts that make it up **Step 2:** Pupils explain why a part can only be defined when in relation to a whole **Step 3:** Pupils identify the number of equal or unequal parts in a whole **Step 4:** Pupils identify equal parts when they do not look the same (i) **Step 5:** Pupils explain the size of the part in relation to the whole **Step 6:** Pupils construct a whole when given a part and the number of parts **Step 7:** Pupils identify how many equal parts a whole has been divided into **Step 8:** Pupils use fraction notation to describe an equal part of the whole **Step 9:** Pupils represent a unit fractions in different ways **Step 10:** Pupils identify parts and wholes in different contexts (i) **Step 11:** Pupils identify parts and wholes in different contexts (ii) **Step 12:** Pupils identify equal parts when they do not look the same (ii) **Step 13:** Pupils compare and order unit fractions by looking at the denominator **Step 14:** Pupils identify when unit fractions cannot be compared **Step 15:** Pupils construct a whole when given one part and the fraction that it represents **Step 16:** Pupils use knowledge of the relationship between parts and wholes in unit fractions to solve problems **Step 17:** Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction **Step 18:** Pupils quantify the number of items in each part and connect to the unit fraction operator **Step 19:** Pupils calculate the value of a part by using knowledge of division and division facts **Step 20:** Pupils calculate the value of a part by connecting knowledge of division and division facts with finding a fraction of a quantity **Step 21:** Pupils find fractions of quantities using knowledge of division facts with increasing fluency **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain that non-unit fractions are composed of more than one unit fraction **Step 2:** Pupils identify non-unit fractions **Step 3:** Pupils identify the number of equal or unequal parts in a whole **Step 4:** Pupils use knowledge of non-unit fractions to solve problems **Step 5:** Pupils use knowledge of unit fractions to find one whole **Step 6:** Pupils place fractions between 0 and 1 on a number line **Step 7:** Pupils use repeated addition of a unit fraction to form a non-unit fraction **Step 8:** Pupils use repeated addition of a unit fraction to form 1 **Step 9:** Pupils compare using knowledge of non-unit fractions equivalent to one **Step 10:** Pupils compare non-unit fractions with the same denominator **Step 11:** Pupils compare unit fractions **Step 12:** Pupils compare fractions with the same numerator **Step 13:** Pupils add up fractions with the same denominator **Step 14:** Pupils add on fractions with the same denominator **Step 15:** Pupils add fractions with the same denominator using a generalised rule **Step 16:** Pupils subtract fractions with the same denominator **Step 17:** Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction **Step 18:** Pupils explain that addition and subtraction of fractions are inverse operations **Step 19:** Pupils subtract fractions from a whole by converting the whole to a fraction **Step 20:** Pupils represent a whole as a fraction in different ways and use this to solve problems involving subtraction **POST ASSESSMENT and ADDRESS GAPS**	**PRE- ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils make compound shapes by joining two polygons in different ways (same parts, different whole) **Step 2:** Pupils investigate different ways of composing and decomposing a polygon (same whole, different parts) **Step 3:** Pupils draw polygons on isometric paper **Step 4:** Pupils use geostrips to investigate quadrilaterals with and without parallel and perpendicular sides **Step 5:** Pupils make and draw compound shapes with and without parallel and perpendicular sides **Step 6:** Pupils learn to extend lines and sides to identify parallel and perpendicular lines **Step 7:** Pupils make and draw triangles on circular geoboards **Step 8:** Pupils make and draw quadrilaterals on circular geoboards **Step 9:** Pupils draw shapes with given properties on a range of geometric grids **POST ASSESSMENT and ADDRESS GAPS**	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 Time | NCETM

Prior Learning Assessment Criteria				
RTP Assessment Criteria	**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).	**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.	**3G-2** Draw polygons by joining marked points, and identify parallel and perpendicular sides.	

Problem Solving	Engage with mathematical activities and problems, making links and moving between different representations (concrete, pictorial, abstract). Independently choose to scaffold thinking using concrete, pictorial or abstract representations, if required. Independently choose to represent thinking using concrete, pictorial or abstract representations, as appropriate. Independently find an efficient way to solve a range of problems. Independently work systematically. Independently find possibilities using patterns spotted to support. Independently check and improve work (e.g. look for other possibilities, repeats, missing answers, errors and ways to improve). Pattern spot and predict what will come next in a pattern/sequence (numbers, shape or spatial). Independently investigate conjectures and provide examples and counter-examples. When they have solved a problem, pose a similar problem for a peer.	**EXS** For all mathematical concepts, ideas and techniques: Represent it in a variety of ways *(e.g. using concrete materials, pictures and symbols – the CPA approach).* Make up his or her own examples *(and non-examples)* of it. See connections between it and other facts or ideas. Recognise it in new situations and contexts. Make use of it in various ways, including in new situations.	**GDS** Solve problems of greater complexity *(i.e. where the approach is not immediately obvious),* demonstrating creativity and imagination. Independently explore and investigate mathematical contexts and structures.
Reasoning	Provide a convinced argument. Reflect on others' convinced explanations and use this to improve their work. Edit and improve their own and a peer's convinced explanation. Investigate 'what if?' questions. Create 'what if?' questions.	Describe it in his or her own words. Explain it to someone else.	Communicate results clearly and systematically explain and generalise the mathematics.

The first Friday and the final Friday of each half term are to be Problem Solving lessons focussing on reasoning and problem solving

See school calendar for dates :