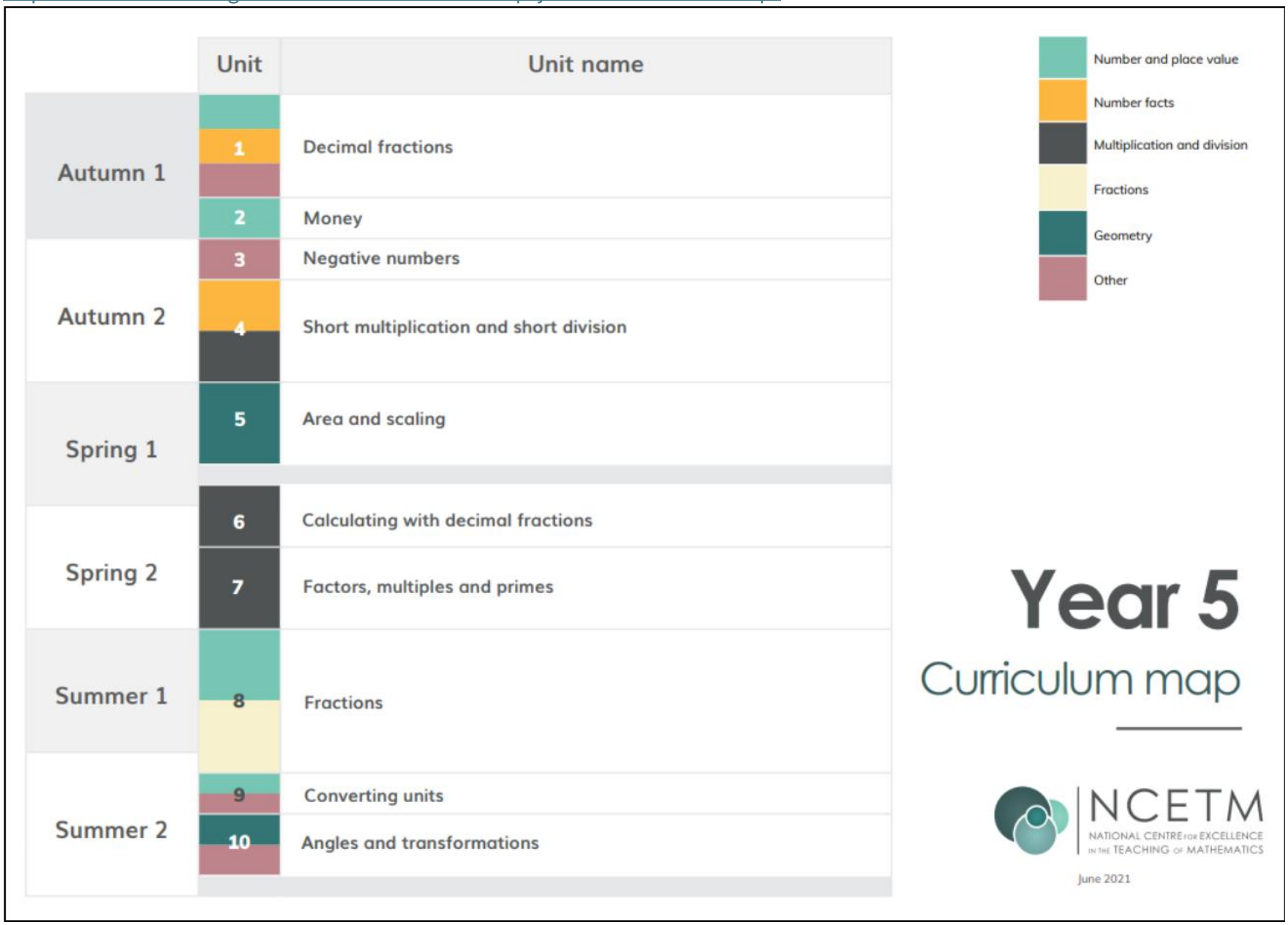
Mathematics

Year 5 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-4-curriculum-map/



Year 5

1 Decimal fractions

- 5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.
- 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.
- 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.
- 5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.
- 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).
- 1.23 Composition and calculation: tenths
- 1.24 Composition and calculation: hundredths and thousandths

2 Money

- 1.25 Addition and subtraction: money

3 Negative numbers

- 1.27 Negative numbers: counting, comparing and calculating

4 Short multiplication and short division

- 5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.
- 5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.
- 2.14 Multiplication: partitioning leading to short multiplication
- 2.15 Division: partitioning leading to short division

5 Area and scaling

- 5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.
- 2.16 Multiplicative contexts: area and perimeter 1
- 2.17 Structures: using measures and comparison to understand scaling

6 Calculating with decimal fractions

- 5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
- 2.19 Calculation: ×/÷ decimal fractions by whole numbers
- 2.29 Decimal place-value knowledge, multiplication and division

7 Factors, multiples and primes

- 5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.
- 2.20 Multiplication with three factors and volume
- 2.21 Factors, multiples, prime numbers and composite numbers

8 Fractions

- 5NPV–5 Convert between units of measure, including using common decimals and fractions.
- 5F–1 Find non-unit fractions of quantities.
- 5F–2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.
- 5F–3 Recall decimal fraction equivalents for ½, ¼, ⅕ and 1/10, and for multiples of these proper fractions.
- 3.6 Multiplying whole numbers and fractions
- 3.7 Finding equivalent fractions and simplifying fractions
- 3.10 Linking fractions, decimals and percentages

9 Converting units

- 5NPV–5 Convert between units of measure, including using common decimals and fractions.

10 Angles

- 5G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.

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 5 Autumn Term NCETM CP

	Week 1 - Week 5	Week 6 – Week 7	Week 8 – Week 9	Week 10 – Week 15
	Unit 1: Decimal Fractions	**Unit 2: Money**	**Unit 3: Negative Numbers**	**Unit 4: Short Multiplication & Short Division**
NCETM CP Small Steps	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils identify tenths as part of a whole **Step 2:** Pupils describe and represent tenths as a decimal fraction **Step 3:** Pupils count in tenths in different ways **Step 4:** Pupils describe and write decimal numbers with tenths in different ways **Step 5:** Pupils compare and order decimal numbers with tenths **Step 6:** Pupils explain that decimal numbers with tenths can be composed additively **Step 7:** Pupils explain that decimal numbers with tenths can be composed multiplicatively **Step 8:** Pupils use their knowledge to calculate with decimal numbers within and across one whole **Step 9:** Pupils use their knowledge to calculate with decimal numbers using mental methods **Step 10:** Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction **Step 11:** Pupils use representations to round a decimal number with tenths to the nearest whole number **Step 12:** Pupils identify hundredths as part of a whole **Step 13:** Pupils describe and represent hundredths as a decimal fraction **Step 14:** Pupils describe and write decimals numbers with hundredths in different ways **Step 15:** Pupils compare and order decimal numbers with hundredths **Step 16:** Pupils explain that decimal numbers with hundredths can be partitioned in different ways **Step 17:** Pupils use their knowledge of decimal place value to convert between and compare metres and centimetres **Step 18:** Pupils explain that different lengths can be composed additively and multiplicatively **Step 19:** Pupils use their knowledge of decimal place value to solve problems in different contexts **Step 20:** Pupils use their knowledge to calculate with decimal numbers up to and bridging one tenth **Step 21:** Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain and represent whole pounds as a quantity of money **Step 2:** Pupils explain and represent whole pounds and pence as a quantity of money **Step 3:** Pupils explain how to compare amounts of money Step 4: Pupils convert quantities of money between pounds and pence **Step 5:** Pupils use their knowledge of addition to efficiently add commonly used prices **Step 6:** Pupils use their knowledge of subtraction to calculate the change due when paying whole pounds or notes **Step 7:** Pupils use and explain the most efficient strategies when adding quantities of money **Step 8:** Pupils use and explain the most efficient strategies when subtracting quantities of money **Step 9:** Pupils find the change when purchasing several items **Step 10:** Pupils use the most efficient and reliable strategy to find the change when purchasing several items **POST ASSESSMENT and ADDRESS GAPS**	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils represent a change story using addition and subtraction symbols **Step 2:** Pupils interpret numbers greater than and less than zero in different contexts **Step 3:** Pupils read and write negative numbers **Step 4:** Pupils explain how the value of a number relates to its position from zero **Step 5:** Pupils identify and place negative numbers on a number line **Step 6:** Pupils interpret sets of negative and positive numbers in a range of contexts **Step 7:** Pupils use their knowledge of positive and negative numbers to calculate intervals **Step 8:** Pupils explain how negative numbers are used on a coordinate grid **Step 9:** Pupils use their knowledge of positive and negative numbers to interpret graphs **POST ASSESSMENT and ADDRESS GAPS**	**PRE-ASSESSMENT and ADDRESS GAP** **Step 1:** Pupils multiply a two-digit number by a single-digit number using partitioning and representations (no regroups) **Step 2:** Pupils multiply a two-digit number by a single-digit number using partitioning and representations (one regroup) **Step 3:** Pupils multiply a two-digit number by a single-digit number using partitioning and representations (two regroups) **Step 4:** Pupils multiply a two-digit number by a single-digit number using partitioning **Step 5:** Pupils multiply a two-digit number by a single-digit number using expanded multiplication (no regroups) **Step 6:** Pupils multiply a two-digit number by a single-digit number using short multiplication (no regroups) **Step 7:** Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping ones to tens) **Step 8:** Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping ones to tens) **Step 9:** Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping tens to hundreds) **Step 10:** Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping tens to hundreds) **Step 11:** Pupils multiply a two-digit number by a single-digit number using both expanded and short multiplication (two regroups) **Step 12:** Pupils use estimation to support accurate calculation **Step 13**: Pupils multiply a three-digit number by a single-digit number using partitioning and representations **Step 14:** Pupils multiply a three-digit number by a single-digit number using partitioning **Step 15:** Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroups) **Step 16:** Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (one regroup) **Step 17**: Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (multiple regroups) **Step 18:** Pupils use estimation to support accurate calculation **Step 19:** Pupils divide a two-digit number by a single-digit number using partitioning and representations (no remainders, no exchanging) **Step 20:** Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging) **Step 21:** Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging and remainders) **Step 22:** Pupils divide a two-digit number by a single-digit number using short division (no exchanging, no remainders) **Step 23:** Pupils divide a two-digit number by a single-digit number using short division (with exchanging) **Step 24:** Pupils divide a two-digit number by a single-digit number using short division (with exchanging and remainders) **Step 25:** Pupils divide a three-digit number by a single-digit number using partitioning and representations (no exchanging, no remainders) **Step 26:** Pupils divide a three-digit number by a single-digit number using partitioning and representations (one exchange, no remainders) **Step 27:** Pupils divide a three-digit number by a single-digit number using partitioning and representations (with exchanging and remainders) **Step 28**: Pupils divide a three-digit number by a single-digit number using short division

	Step 22: Pupils round a decimal number with hundredths to the nearest tenth **Step 23:** Pupils round a decimal number with hundredths to the nearest whole number **Step 24:** Pupils read and write numbers with up to 3 decimal places **Step 25:** Pupils compare and order numbers with up to 3 decimal places **POST ASSESSMENT and ADDRESS GAPS**			**Step 29:** Pupils divide a three-digit number by a single-digit number using short division (with exchanging and remainders) **Step 30:** Pupils solve short division problems accurately when the hundreds digit is smaller than the divisor **Step 31:** Pupils will use efficient strategies of division to solve problems **POST ASSESSMENT and ADDRESS GAPS**	
Prior Learning Assessment Criteria	**4NPV-1** Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. **4NPV-2** Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. **4NPV-3** Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. **4NPV-4** Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. **4NF-3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)			**4MD-3** Understand and apply the distributive property of multiplication.	
RTP Assessment Criteria	**5NPV-1** Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. **5NPV-2** Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. **5NPV-3** Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. **5NPV-4** Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. **5NF-2** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth),			**5MD-3** Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. **5MD-4** Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	
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. Make suggestions of ways to solve a range of problems. Organise work from the outset, looking for ways to record and work systematically. Find and predict possibilities that match the context 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 independently express generalisations/rules in words.			**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.

	Make and investigate conjectures and provide examples and counter-examples. When they have solved a problem, pose a similar problem for a peer.		
Reasoning	Provide a clear, correct, logical justification, expressing generalisation/rules in words. Reflect on others' justifications and use this to improve their work. Edit and improve their own and a peer's justification. 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 5 Spring Term NCETM CP

	Week 1 - Week 5	Week 6 – Week 8		Week 9 – Week 11	
	Unit 5: Area & Scaling	**Unit 6: Calculating with Decimal Fractions**		**Unit 10: Angles**	
NCETM CP Small Steps	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain what area is and can measure using counting as a strategy (1) **Step 2:** Pupils explain what area is and can measure using counting as a strategy (2) **Step 3:** Pupils explain how to make different shapes with the same area **Step 4:** Pupils explain how to compare the area of different shapes **Step 5:** Pupils measure the area of flat shapes area using square centimetres **Step 6:** Pupils measure the area of flat shapes area using square metres **Step 7:** Pupils calculate the area of a rectangle using multiplication **Step 8:** Pupils calculate the area of rectilinear shapes **Step 9:** Pupils use their knowledge of area to solve problems **Step 10:** Pupils compare and describe lengths by using their knowledge of multiplication **Step 11:** Pupils use their knowledge of multiplication to solve comparison and change problems **Step 12:** Pupils compare and describe lengths by using their knowledge of division **Step 13:** Pupils use their knowledge of division to solve comparison and change problems **Step 14:** Pupils compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time) (1) **Step 15**: Pupils compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time) (2) **Step 16**: Pupils describe the changes in measurements using their knowledge of multiplication and division **Step 17:** Pupils use their knowledge of multiplication and division to solve comparison and change problems **POST ASSESSMENT and ADDRESS GAPS**	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (1) **Step 2:** Pupils explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (2) **Step 3:** Pupils explain how to multiply and divide a number by 10, 100 and 1,000 (first 'number' two or more non-zero digits) **Step 4:** Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (length) **Step 5**: Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (mass and capacity) **Step 6**: Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (tenths) **Step 7:** Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (hundredths) **Step 8:** Pupils use their knowledge of multiplying decimal fractions by whole numbers to solve measures problems	**Step 9:** Pupils explain the relationship between multiplying by 0.1 dividing by 10 **Step 10:** Pupils explain the relationship between multiplying by 0.01 dividing by 100 **Step 11:** Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (1) **Step 12**: Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (2) **Step 13:** Pupils explain how to use the size of the multiplier to predict the size of the product compared to the multiplicand **Step 14:** Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (1) **Step 15:** Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (2) **POST ASSESSMENT and ADDRESS GAPS**	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils compare the size of angles where there is a clear visual difference **Step 2:** Pupils use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles **Step 3:** Pupils use a unit called degrees (°) as a standard unit to measure angles **Step 4:** Pupils estimate the size of angles in degrees using angle sets **Step 5:** Pupils measure the size of angles accurately using a protractor **POST ASSESSMENT and ADDRESS GAPS**	
Prior Learning Assessment Criteria		**4MD-1** Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.			
RTP Assessment Criteria	**5G-2** Compare areas and calculate the area of rectangles (including squares) using standard units.	**5MD-1** Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.		**5G-1** Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.	
			EXS		**GDS**

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. Make suggestions of ways to solve a range of problems. Organise work from the outset, looking for ways to record and work systematically. Find and predict possibilities that match the context 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 independently express generalisations/rules in words. Make and investigate conjectures and provide examples and counter-examples. When they have solved a problem, pose a similar problem for a peer.	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.	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 clear, correct, logical justification, expressing generalisation/rules in words. Reflect on others' justifications and use this to improve their work. Edit and improve their own and a peer's justification. 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.

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Year 5 Summer Term NCETM CP

	Week 1 - Week 3	Week 4 – Week 10		Week 11 – Week 13	
	Unit 7: Factors, Multiples, Primes	**Unit 8: Fractions**		**Unit 9: Converting Units**	
NCETM CP Small Steps	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain what 'volume' is using a range of contexts **Step 2:** Pupils describe the units used to measure volume **Step 3:** Pupils explain how to calculate the volume of a cuboid **Step 4:** Pupils explain what a cube number is **Step 5:** Pupils use their knowledge of calculating volume to solve problems in a range of contexts **Step 6:** Pupils explain how to calculate the volume of compound shapes **Step 7:** Pupils explain the use of the commutative and distributive laws when multiplying three or more numbers **Step 8:** Pupils explain the reasons for changing two-factor multiplication calculations to three-factor multiplications **Step 9:** Pupils explain what a factor is and how to use arrays and multiplication/division facts to find them **Step 10:** Pupils explain how to systematically find all factors of a number and how they know when they have found them all **Step 11:** Pupils use a complete list of factors to explain when a number is a square number **Step 12:** Pupils explain how to identify a prime number or a composite number **Step 13:** Pupils explain how to identify a common factor or a prime factor of a number **Step 14**: Pupils explain how to identify a multiple or common multiple of a number **Step 15:** Pupils use knowledge of properties of number to solve problems in a range of contexts **Step 16:** Pupils explain how to use the factor pairs of '100' to solve calculations efficiently **POST ASSESSMENT and ADDRESS GAPS**	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (unit fractions) **Step 2:** Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (non-unit fractions) **Step 3**: Pupils multiply a proper fraction by a whole number (within a whole) **Step 4:** Pupils multiply a proper fraction by a whole number (greater than a whole) **Step 5:** Pupils multiply an improper fraction by a whole number **Step 6:** Pupils multiply a mixed number by a whole number (product is within a whole) **Step 7:** Pupils multiply a mixed number by a whole number (product is greater than a whole) **Step 8:** Pupils find a unit fraction of a quantity **Step 9:** Pupils explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction **Step 10:** Pupils explain the relationship between dividing by a whole number and multiplying a whole number by a unit fraction **Step 11:** Pupils use their knowledge of multiplying a whole number by a unit fraction to solve problems **Step 12:** Pupils find a non-unit fraction of a quantity (mental calculation) **Step 13**: Pupils find a non-unit fraction of a quantity (written calculation) **Step 14:** Pupils multiply a whole number by a proper fraction **Step 15:** Pupils explain when a calculation represents scaling down and when it represents repeated addition **Step 16:** Pupils find the whole when the size of a unit fraction is known **POST ASSESSMENT and ADDRESS GAPS**	**Step 17:** Pupils find a unit fraction when the size of a non-unit fraction is known **Step 18:** Pupils find the whole when the size of a non-unit fraction is known **Step 19:** Pupils find the unit fraction when the size of a non-unit fraction is known **Step 20:** Pupils use representations to describe and compare two fractions (1/4 and 3/12) **Step 21:** Pupils use representations to describe and compare two fractions (1/5 and 5/10) **Step 22:** Pupils use representations to describe and compare two fractions (pouring context) **Step 23:** Pupils correctly use the language of equivalent fractions **Step 24:** Pupils explain the vertical relationship between numerators and denominators within equivalent fractions (1/5, 1/3 and equivalent) **Step 25:** Pupils use their knowledge of the vertical relationship to solve equivalent fractions problems **Step 26:** Pupils explain the horizontal relationship between numerators and denominators across equivalent fractions (1/5, 1/3 and equivalent) **Step 27:** Pupils explain the relationship within families of equivalent fractions **Step 28:** Pupils use their knowledge of equivalent fractions to solve problems **Step 29:** 9Pupils explain and represent how to divide 1 into different amounts of equal parts **Step 30:** Pupils identify and describe patterns within the number system **Step 31:** Pupils use their knowledge of common equivalents to compare fractions with decimals **Step 32:** Pupils practise recalling common fraction-decimal equivalents **POST ASSESSMENT and ADDRESS GAPS**	**PRE-ASSESSMENT and ADDRESS GAPS** **Step 1:** Pupils apply memorised unit conversions to convert between units of measure (larger to smaller units - whole number conversions) **Step 2:** Pupils apply memorised unit conversions to convert between units of measure (smaller to larger units - whole number conversions) **Step 3:** Pupils convert from and to fraction and decimal fraction quantities of larger units **Step 4:** Pupils derive common conversions over 1 **Step 5:** Pupils carry out conversions that correspond to 100 parts **Step 6**: Pupils solve measures problems involving different units **Step 7:** Pupils understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints **Step 8:** Pupils convert between miles and kilometres **Step 9:** Pupils solve problems involving converting between units of time **POST ASSESSMENT and ADDRESS GAPS**	
Prior Learning Assessment Criteria	**4MD-2** Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	**3F-2** Find unit fractions of quantities using known division facts (multiplication tables fluency).		**5NPV-**5 Convert between units of measure, including using common decimals and fractions.	

RTP Assessment Criteria	**5MD-2** Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.	**5NPV-5** Convert between units of measure, including using common decimals and fractions. **5F-1** Find non-unit fractions of quantities. **5F-2** Find equivalent fractions and understand that they have the same value and the same position in the linear number system. **5F-3** Recall decimal fraction equivalents for ½, ¼, 1/5 and 1/10 and for multiples of these proper fractions.		

		EXS	**GDS**
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. Make suggestions of ways to solve a range of problems. Organise work from the outset, looking for ways to record and work systematically. Find and predict possibilities that match the context 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 independently express generalisations/rules in words. Make and investigate conjectures and provide examples and counter-examples. When they have solved a problem, pose a similar problem for a peer.	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.	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 clear, correct, logical justification, expressing generalisation/rules in words. Reflect on others' justifications and use this to improve their work. Edit and improve their own and a peer's justification. 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.

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