Year Five

Mullion Primary School
Mathematics Long Term Planning 2024 – 2025

	Colour	Strand
	teal	Number and place value
	orange	Number facts
	dark red	Addition and subtraction
	grey	Multiplication and division
	cream	Fractions
	dark teal	Geometry
	pink	Other

Term	Unit name	Unit Source	Strand	Time frame	Small Steps
Autumn 1	Decimal fractions	NCETM CP – Unit 1 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-1-decimal-fractions/		5 weeks	1 Pupils identify tenths as part of a whole 2 Pupils describe and represent tenths as a decimal fraction 3 Pupils count in tenths in different ways 4 Pupils describe and write decimal numbers with tenths in different ways 5 Pupils compare and order decimal numbers with tenths 6 Pupils explain that decimal numbers with tenths can be composed additively 7 Pupils explain that decimal numbers with tenths can be composed multiplicatively 8 Pupils use their knowledge to calculate with decimal numbers within and across one whole 9 Pupils use their knowledge to calculate with decimal numbers using mental methods 10 Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction 11 Pupils use representations to round a decimal number with tenths to the nearest whole number 12 Pupils identify hundredths as part of a whole 13 Pupils describe and represent hundredths as a decimal fraction 14 Pupils describe and write decimals numbers with hundredths in different ways 15 Pupils compare and order decimal numbers with hundredths 16 Pupils explain that decimal numbers with hundredths can be partitioned in different ways 17 Pupils use their knowledge of decimal place value to convert between and compare metres and centimetres 18 Pupils explain that different lengths can be composed additively and multiplicatively 19 Pupils use their knowledge of decimal place value to solve problems in different contexts 20 Pupils use their knowledge to calculate with decimal numbers up to and bridging one tenth 21 Pupils use their knowledge to calculate with decimal numbers using column addition and subtraction 22 Pupils round a decimal number with hundredths to the nearest tenth

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					23 Pupils round a decimal number with hundredths to the nearest whole number 24 Pupils read and write numbers with up to 3 decimal places 25 Pupils compare and order numbers with up to 3 decimal places
Autumn 1	Money	NCETM – CP Unit 2 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-2-money/		2 weeks	1 Pupils explain and represent whole pounds as a quantity of money 2 Pupils explain and represent whole pounds and pence as a quantity of money 3 Pupils explain how to compare amounts of money 4 Pupils convert quantities of money between pounds and pence 5 Pupils use their knowledge of addition to efficiently add commonly used prices 6 Pupils use their knowledge of subtraction to calculate the change due when paying whole pounds or notes 7 Pupils use and explain the most efficient strategies when adding quantities of money 8 Pupils use and explain the most efficient strategies when subtracting quantities of money 9 Pupils find the change when purchasing several items 10 Pupils use the most efficient and reliable strategy to find the change when purchasing several items
Autumn 2	Negative numbers	NCETM – CP Unit 3 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-3-negative-numbers/		2 weeks	1 Pupils represent a change story using addition and subtraction symbols 2 Pupils interpret numbers greater than and less than zero in different contexts 3 Pupils read and write negative numbers 4 Pupils explain how the value of a number relates to its position from zero 5 Pupils identify and place negative numbers on a number line 6 Pupils interpret sets of negative and positive numbers in a range of contexts 7 Pupils use their knowledge of positive and negative numbers to calculate intervals 8 Pupils explain how negative numbers are used on a coordinate grid 9 Pupils use their knowledge of positive and negative numbers to interpret graphs
Autumn 2 into Spring 1	Short multiplication and division	NCETM – CP Unit 4 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-4-short-multiplication-and-short-division/		6 weeks	1 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (no regroups) 2 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (one regroup) 3 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (two regroups) 4 Pupils multiply a two-digit number by a single-digit number using partitioning 5 Pupils multiply a two-digit number by a single-digit number using expanded multiplication (no regroups) 6 Pupils multiply a two-digit number by a single-digit number using short multiplication (no regroups) 7 Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping ones to tens)

						8 Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping ones to tens) 9 Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping tens to hundreds) 10 Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping tens to hundreds) 11 Pupils multiply a two-digit number by a single-digit number using both expanded and short multiplication (two regroups) 12 Pupils use estimation to support accurate calculation 13 Pupils multiply a three-digit number by a single-digit number using partitioning and representations 14 Pupils multiply a three-digit number by a single-digit number using partitioning 15 Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroups) 16 Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (one regroup) 17 Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (multiple regroups) 18 Pupils use estimation to support accurate calculation 19 Pupils divide a two-digit number by a single-digit number using partitioning and representations (no remainders, no exchanging) 20 Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging) 21 Pupils divide a two-digit number by a single-digit number using partitioning and representations (with exchanging and remainders) 22 Pupils divide a two-digit number by a single-digit number using short division (no exchanging, no remainders) 23 Pupils divide a two-digit number by a single-digit number using short division (with exchanging) 24 Pupils divide a two-digit number by a single-digit number using short division (with exchanging and remainders) 25 Pupils divide a three-digit number by a single-digit number using partitioning and representations (no exchanging, no remainders) 26 Pupils divide a three-digit number by a single-digit number using partitioning and representations (one exchange, no remainders) 27 Pupils divide a three-digit number by a single-digit number using partitioning and representations (with exchanging and remainders) 28 Pupils divide a three-digit number by a single-digit number using short division

					29 Pupils divide a three-digit number by a single-digit number using short division (with exchanging and remainders) 30 Pupils solve short division problems accurately when the hundreds digit is smaller than the divisor 31 Pupils will use efficient strategies of division to solve problems
Spring 1	Area and scaling	NCETM – CP Unit 5 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-5-area-and-scaling/		5 weeks	1 Pupils explain what area is and can measure using counting as a strategy (1) 2 Pupils explain what area is and can measure using counting as a strategy (2) 3 Pupils explain how to make different shapes with the same area 4 Pupils explain how to compare the area of different shapes 5 Pupils measure the area of flat shapes area using square centimetres 6 Pupils measure the area of flat shapes area using square metres 7 Pupils calculate the area of a rectangle using multiplication 8 Pupils calculate the area of rectilinear shapes 9 Pupils use their knowledge of area to solve problems 10 Pupils compare and describe lengths by using their knowledge of multiplication 11 Pupils use their knowledge of multiplication to solve comparison and change problems 12 Pupils compare and describe lengths by using their knowledge of division 13 Pupils use their knowledge of division to solve comparison and change problems 14 Pupils compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time) (1) 15 Pupils compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time) (2) 16 Pupils describe the changes in measurements using their knowledge of multiplication and division 17 Pupils use their knowledge of multiplication and division to solve comparison and change problems
Spring 2	Calculating with decimal fractions	NCETM – CP Unit 6 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-6-calculating-with-decimal-fractions/		3 weeks	1 Pupils explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (1) 2 Pupils explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (2) 3 Pupils explain how to multiply and divide a number by 10, 100 and 1,000 (first 'number' two or more non-zero digits) 4 Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (length) 5 Pupils use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (mass and capacity) 6 Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (tenths)

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					7 Pupils explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (hundredths) 8 Pupils use their knowledge of multiplying decimal fractions by whole numbers to solve measures problems 9 Pupils explain the relationship between multiplying by 0.1 dividing by 10 10 Pupils explain the relationship between multiplying by 0.01 dividing by 100 11 Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (1) 12 Pupils explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (2) 13 Pupils explain how to use the size of the multiplier to predict the size of the product compared to the multiplicand 14 Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (1) 15 Pupils explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (2
Spring 2 into Summer 1	Factors, multiples and primes	NCETM – CP Unit 7 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-7-factors-multiples-and-primes/		4 weeks	1 Pupils explain what 'volume' is using a range of contexts 2 Pupils describe the units used to measure volume 3 Pupils explain how to calculate the volume of a cuboid 4 Pupils explain what a cube number is 5 Pupils use their knowledge of calculating volume to solve problems in a range of contexts 6 Pupils explain how to calculate the volume of compound shapes 7 Pupils explain the use of the commutative and distributive laws when multiplying three or more numbers 8 Pupils explain the reasons for changing two-factor multiplication calculations to three-factor multiplications 9 Pupils explain what a factor is and how to use arrays and multiplication/division facts to find them 10 Pupils explain how to systematically find all factors of a number and how they know when they have found them all 11 Pupils use a complete list of factors to explain when a number is a square number 12 Pupils explain how to identify a prime number or a composite number 13 Pupils explain how to identify a common factor or a prime factor of a number 14 Pupils explain how to identify a multiple or common multiple of a number 15 Pupils use knowledge of properties of number to solve problems in a range of contexts 16 Pupils explain how to use the factor pairs of '100' to solve calculations efficiently

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| Summer 1 | Fractions | NCETM – CP Unit 8 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-8-fractions/ | | | 7 weeks | 1 Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (unit fractions)
2 Pupils explain the relationship between repeated addition of a proper fraction and multiplication of fractions (non-unit fractions)
3 Pupils multiply a proper fraction by a whole number (within a whole)
4 Pupils multiply a proper fraction by a whole number (greater than a whole)
5 Pupils multiply an improper fraction by a whole number
6 Pupils multiply a mixed number by a whole number (product is within a whole)
7 Pupils multiply a mixed number by a whole number (product is greater than a whole)
8 Pupils find a unit fraction of a quantity
9 Pupils explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction
10 Pupils explain the relationship between dividing by a whole number and multiplying a whole number by a unit fraction
11 Pupils use their knowledge of multiplying a whole number by a unit fraction to solve problems
12 Pupils find a non-unit fraction of a quantity (mental calculation)
13 Pupils find a non-unit fraction of a quantity (written calculation)
14 Pupils multiply a whole number by a proper fraction
15 Pupils explain when a calculation represents scaling down and when it represents repeated addition
16 Pupils find the whole when the size of a unit fraction is known
17 Pupils find a unit fraction when the size of a non-unit fraction is known
18 Pupils find the whole when the size of a non-unit fraction is known
19 Pupils find the unit fraction when the size of a non-unit fraction is known
20 Pupils use representations to describe and compare two fractions (1/4 and 3/12)
21 Pupils use representations to describe and compare two fractions (1/5 and 5/10)
22 Pupils use representations to describe and compare two fractions (pouring context)
23 Pupils correctly use the language of equivalent fractions
24 Pupils explain the vertical relationship between numerators and denominators within equivalent fractions (1/5, 1/3 and equivalent)
25 Pupils use their knowledge of the vertical relationship to solve equivalent fractions problems
26 Pupils explain the horizontal relationship between numerators and denominators across equivalent fractions (1/5, 1/3 and equivalent)
27 Pupils explain the relationship within families of equivalent fractions
28 Pupils use their knowledge of equivalent fractions to solve problems |

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						29 Pupils explain and represent how to divide 1 into different amounts of equal parts 30 Pupils identify and describe patterns within the number system 31 Pupils use their knowledge of common equivalents to compare fractions with decimals 32 Pupils practise recalling common fraction-decimal equivalents 33 Pupils use their knowledge of common fraction-decimal equivalents to solve conversion problems in a range of contexts 34 Pupils use their knowledge of common equivalents to compare fractions with decimals beyond one 35 Pupils use their knowledge of simplifying calculations by substitution to solve problems in a range of contexts
Summer 2	Converting units	NCETM – CP Unit 9 https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-9-converting-units/			2 weeks	1 Pupils apply memorised unit conversions to convert between units of measure (larger to smaller units - whole number conversions) 2 Pupils apply memorised unit conversions to convert between units of measure (smaller to larger units - whole number conversions) 3 Pupils convert from and to fraction and decimal fraction quantities of larger units 4 Pupils derive common conversions over 1 5 Pupils carry out conversions that correspond to 100 parts 6 Pupils solve measures problems involving different units 7 Pupils understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints 8 Pupils convert between miles and kilometres 9 Pupils solve problems involving converting between units of time
Summer 2	Angles	White Rose Summer Term Shape Unit (follow WR small steps, but NCETM further steps (see below) included to be taught) NCETM guidance https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-10-angles/			2 weeks	White Rose small steps: 1 Pupils can understand and use degrees 2 Pupils can classify angles 3 Pupils can estimate angles 4 Pupils can measure angles up to 180 degrees 5 Pupils can draw lines and angles accurately 6 Pupils can calculate angles around a point 7 Pupils can calculate angles on a straight line 8 Pupils can calculate lengths and angles in shapes 9 Pupils can classify regular and irregular polygons 10 Pupils can classify 3D shapes

Assessment questions, linked to the DFE's Ready-to-Progress Criteria: https://www.ncetm.org.uk/classroom-resources/cp-year-5-curriculum-map/