St. Mary's CE Primary School

Curriculum Map: Overview for Mathematics

Plan: Maths Mastery (Power Maths)

Year: Year 5

Autumn Term			
Unit	**Strands**	**NC Objectives**	**Lesson Progression**
1	Number and place value	1. Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit 2. Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 3. Solve number problems and practical problems that involve all of the above 4. Read roman numerals to 1,000 (m) and recognise years written in roman numerals	1. Numbers to 10,000 2. Rounding to the nearest 10, 100 and 1,000 3. 10,000s, 1,000s, 100s, 10s and 1s (1) 4. 10,000s, 1,000s, 100s, 10s and 1s (2) 5. The number line to 100,000 6. Comparing and ordering numbers to 100,000 7. Rounding numbers within 100,000 8. Roman numerals to 10,000
2	Number and place value	1. Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit 2. Solve number problems and practical problems that involve all of the above 3. Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 4. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero 5. Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	1. 100,000s 10,000s, 1,000s, 100s, 10s and 1s (1) 2. 100,000s 10,000s, 1,000s, 100s, 10s and 1s (2) 3. Number line to 1,000,000 4. Comparing and ordering numbers to 1,000,000 5. Rounding numbers to a 1,000,000 6. Negative numbers 7. Counting in 10s, 100s, 1,000s, 10,000s 8. Number sequences
3	Number – addition and subtraction	1. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar	1. Adding whole numbers with more than 4 digits (1)

		addition and subtraction) 2. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 3. Add and subtract numbers mentally with increasingly large numbers 4. Estimate and use inverse operations to check answers to a calculation 5. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 6. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	2. Adding whole numbers with more than 4 digits (2) 3. Subtracting whole numbers with more than 4 digits (1) 4. Subtracting whole numbers with more than 4 digits (2) 5. Using rounding to estimate and check answers 6. Mental addition and subtraction 7. Mental addition and subtraction (2) 8. Using inverse operations 9. Problem solving – addition and subtraction (1) 10. Problem solving – addition and subtraction (2)
4	Statistics	1. Complete, read and interpret information in tables, including timetables 2. Solve comparison, sum and difference problems using information presented in a line graph	1. Interpreting tables 2. Two-way tables 3. Interpreting line graphs (1) 4. Interpreting line graphs (2) 5. Drawing line graphs
5	Number – multiplication and division	1. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers 2. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 3. Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers 4. Establish whether a number up to 100 is prime and recall prime numbers up to 19 5. Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) 6. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	1. Multiples 2. Factors 3. Prime numbers 4. Using factors 5. Squares 6. Cubes 7. Inverse operations 8. Multiplying whole numbers by 10, 100 and 1,000 9. Dividing whole numbers by 10, 100 and 1,000 10. Multiplying and dividing by multiples of 10, 100 and 1,000

6	Measurement	1. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 2. Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	1. Measuring perimeter 2. Calculating perimeter (1) 3. Calculating perimeter (2) 4. Calculating area (1) 5. Calculating area (2) 6. Comparing area 7. Estimating area

Spring Term			
Unit	**Strands**	**NC Objectives**	**Lesson Progression**
7	Number – multiplication and division	1. Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers 2. Multiply and divide numbers mentally drawing upon known facts 3. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	1. Multiplying numbers up to 4 digits by a 1-digit number 2. Multiplying 2-digit numbers (1) 3. Multiplying 2-digit numbers (2) 4. Multiplying 2-digit numbers (3) 5. Multiplying a 3-digit number by a 2-digit number 6. Multiplying a 3-digit number by a 2-digit number 7. Dividing up to a 4-digit number by a 1-digit number (1) 8. Dividing up to a 4-digit number by a 1-digit number (2) 9. Division with remainders (1) 10. Division with remainders (2) 11. Problem solving – division with remainders
8	Number – **fractions** (including decimals and percentages)	1. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths 2. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2 2/5 + 4/ 5 = 6/ 5 = 1 1/ 5 3. Compare and order fractions whose denominators are all multiples of the same number	1. Equivalent fractions 2. Converting improper fractions to mixed numbers 3. Converting mixed numbers to improper fractions 4. Number sequences 5. Comparing and ordering fractions (1) 6. Comparing and ordering fractions (2) 7. Fractions as division (1) 8. Fractions as division (2)
9	Number – **fractions** (including decimals and percentages)	1. Add and subtract fractions with the same denominator and denominators that are multiples of the same number 2. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2 2/5 + 4/ 5 = 6/ 5 = 1 1/ 5	1. Adding and subtracting fractions with the same denominator 2. Adding and subtracting fractions (1) 3. Adding and subtracting fractions (2) 4. Adding fractions (1) 5. Adding fractions (2) 6. Adding fractions (3) 7. Subtracting fractions (1) 8. Subtracting fractions (2)

			9. Subtracting fractions (3) 10. Subtracting fractions (4) 11. Problem solving – mixed word problems (1) 12. Problem solving – mixed word problems (2)
10	Number – **fractions** (including decimals and percentages)	1. Add and subtract fractions with the same denominator and denominators that are multiples of the same number 2. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 3. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2 2/5 + 4/ 5 = 6/ 5 = 1 1/ 5	1. Multiplying fractions (1) 2. Multiplying fractions (2) 3. Multiplying fractions (3) 4. Multiplying fractions (4) 5. Calculating fractions of amounts 6. Using fractions as operators 7. Problem solving – mixed word problems
11	Number – fractions (including **decimals and percentages**)	1. Read, write, order and compare numbers with up to three decimal places 2. Read and write decimal numbers as fractions (for example, =71/100) 3. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 4. Round decimals with two decimal places to the nearest whole number and to one decimal place 5. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal 6. Solve problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25 7. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	1. Writing decimals (1) 2. Writing decimals (2) 3. Decimals as fractions (1) 4. Decimals as fractions (2) 5. Understanding thousandths 6. Writing thousandths as decimals 7. Ordering and comparing decimals (1) 8. Ordering and comparing decimals (2) 9. Rounding decimals 10. Understanding percentages 11. Percentages as fractions and decimals 12. Equivalent fractions, decimals and percentages

Summer Term			
Unit	**Strands**	**NC Objectives**	**Lesson Progression**
12	Number – fractions (including **decimals** and percentages)	1. Solve problems involving number up to three decimal places 2. Decimal sequences 3. Read, write, order and compare numbers with up to three decimal places 4. Problem solving – decimals (1) Multiplying decimals by 10, 100 and 1,000 Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 5. Dividing decimals by 10, 100 and 1,000	1. Adding and subtracting decimals (1) 2. Adding and subtracting decimals (2) 3. Adding and subtracting decimals (3) – complements to 1 4. Adding and subtracting decimals (4) – bridging 1 5. Adding and subtracting decimals (5) – adding same number of decimal places 6. Adding and subtracting decimals (6) – subtracting with exchanging 7. Adding and subtracting decimals (7) – different number of decimal places 8. Adding and subtracting decimals (8) 9. Decimal sequences 10. Problem solving – decimals (1) 11. Problem solving – decimals (2) 12. Multiplying decimals by 10 13. Multiplying decimals by 10, 100 and 1,000 14. Dividing decimals by 10 15. Dividing decimals by 10, 100 and 1,000
14	Geometry – properties of shapes	1. Use the properties of rectangles to deduce related facts and find missing lengths and angles 2. Identify: –angles at a point and one whole turn (total 360°) –angles at a point on a straight line and 1 2 a turn (total 180°) –other multiples of 90° 3. Use the properties of rectangles to deduce related facts and find missing lengths and angles 4. Draw given angles, and measure them in degrees (o) 5. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles 6. Identify 3D shapes, including cubes and other cuboids,	1. Recognising and drawing parallel lines 2. Recognising and drawing perpendicular lines 3. Reasoning about parallel and perpendicular lines 4. Regular and irregular polygons 5. Reasoning about 3D shapes

		from 2D representations	
15	Geometry – position and direction	1. Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	1. Reflection 2. Reflection with coordinates 3. Translation 4. Translation with coordinates
16	Measurement	1. Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 2. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling 3. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints 4. Solve problems involving converting between units of time	1. Metric units (1) 2. Metric units (2) 3. Metric units (3) 4. Metric units (4) 5. Imperial units of length 6. Imperial units of mass 7. Imperial units of capacity 8. Converting units of time 9. Timetables 10. Problem solving – measure
17	Measurement	1. Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	1. What is volume? 2. Comparing volumes 3. Estimating volume 4. Estimating capacity