St Mary's Catholic Primary School

Curriculum Mapping – Y5 (**National Curriculum Objectives** WhiteRose Small Steps **NCETM and DfE Ready-to-progress Criteria**)

AUTUMN TERM **SPRING TERM** **SUMMER TERM**

Number: Place Value	Number: Addition and Subtraction	Number: Multiplication and Division A	Number: Fractions A
• **Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.** • **Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.** • **Solve number problems and practical problems involving the above.** • **Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.** • **Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.** • **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.** • **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.** • **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.** 1. Roman numerals to 1,000 2. Numbers to 10,000 3. Numbers to 100,000 4. Numbers to 1,000,000 5. Read and write numbers to 1,000,000 6. Powers of 10 7. 10/100/1,000/10,000/100,000 more or less 8. Partition numbers to 1,000,000 9. Number line to 1,000,000 10. Compare and order numbers to 100,000 11. Compare and order numbers to 1,000,000 12. Round to the nearest 10, 100 or 1,000 13. Round within 100,000 14. Round within 1,000,000	• **Add and subtract numbers mentally with increasingly large numbers.** • **Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)** • **Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.** • **Round any number up to 1,000,000 to the nearest 10, 100, 1,000,** • **10,000 and 100,000** • **Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.** • **Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).** 1. Mental strategies (additive reasoning) 2. Add whole numbers with more than four digits 3. Subtract whole numbers with more than four digits 4. Round to check answers 5. Inverse operations (addition and subtraction) 6. Multi-step addition and subtraction problems 7. Compare calculations 8. Find missing numbers	• **Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.** • **Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes.** • **Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.** • **Establish whether a number up to 100 is prime and recall prime numbers up to 19** • **Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)** • **Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.** • **Multiply and divide numbers mentally, drawing upon known facts.** • **Secure fluency in multiplication table facts, and corresponding division facts, through continued practice** • **Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).** • **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.** • **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.** 1. Multiples 2. Common multiples 3. Factors 4. Common factors 5. Prime numbers 6. Square numbers 7. Cube numbers 8. Multiple by 10, 100 and 1,000 9. Divide by 10, 100 and 1,000 10. Multiples of 10, 100 and 1,000	• **Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.** • **Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.** • **Compare and order fractions whose denominators are all multiples of the same number.** • **Add and subtract fractions with the same denominator, and denominators that are multiples of the same number.** • **Find equivalent fractions and understand that they have the same value and the same position in the linear number system.** 1. Find fractions equivalent to a unit fraction 2. Find fractions equivalent to a non-unit fraction 3. Convert improper fractions to mixed numbers 4. Convert mixed numbers to improper fractions 5. Compare fractions less than 1 6. Order fractions less than 1 7. Compare and order fractions greater than 1 8. Add and subtract fractions with the same denominator 9. Add fractions within 1 10. Add fractions with a total greater than 1 11. Add to a mixed number 12. Add two mixed numbers 13. Subtract fractions 14. Subtract from a mixed number 15. Subtract from a mixed number – breaking the whole 16. Subtract two mixed numbers

St Mary's Catholic Primary School

Number: Multiplication and Division B	Number: Fractions B	Number: Decimals and Percentages	Measurement: Perimeter and Area
• **Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.** • **Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context.** • **Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes.** • **Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.** • **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.** 1. Multiply up to a 4-digit number by a 1-digit number 2. Multiply a 2-digit number by a 2-digit number (area model) 3. Multiply a 2-digit number by a 2-digit number 4. Multiply a 3-digit number by a 2-digit number 5. Multiply a 4-digit number by a 2-digit number 6. Sole problems with multiplication 7. Short division 8. Divide a 4-digit number by a 1-digit number 9. Divide with remainders 10. Efficient division 11. Solve problems with multiplication and division	• **Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.** • **Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number (Y4)** • **Find non-unit fractions of quantities.** 1. Multiply a unit fraction by an integer 2. Multiply a non-unit fraction by an integer 3. Multiply a mixed number by an integer 4. Calculate a fraction of a quantity 5. Fraction of an amount 6. Find the whole 7. Use fractions as operators	• **Read, write, order and compare numbers with up to 3 decimal places.** • **Read and write decimal numbers as fractions.** • **Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.** • **Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.** • **Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.** • **Solve problems involving numbers up to 3 decimal places.** • **Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place** • **Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction.** • **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.** • **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.** • **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.** • **Recall decimal fraction equivalents for $\frac{1}{2}$,$\frac{1}{4}$,$\frac{1}{5}$ and 1/10 and for multiples of these proper fractions.** 1. Decimals up to 2 decimal places 2. Equivalent fractions and decimals (tenths) 3. Equivalent fractions and decimals (hundredths) 4. Equivalent fractions and decimals 5. Thousandths as fractions 6. Thousandths as decimals	• **Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.** • **Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes.** • **Compare areas and calculate the area of rectangles (including squares) using standard units.** 1. Perimeter of rectangles 2. Perimeter of rectilinear shapes 3. Perimeter of polygons 4. Area of rectangles 5. Area of compound shapes 6. Estimate area

St Mary's Catholic Primary School

		7. Thousandths on a place value chart 8. Order and compare decimals (same number of decimal places) 9. Order and compare any decimals with up to 3 decimal places 10. Round to the nearest whole number 11. Round to 1 decimal place 12. Understand percentages 13. Percentages as fractions 14. Percentages as decimals 15. Equivalent fractions, decimals and percentages	
Statistics	**Geometry: Shape**	**Geometry: Position and Direction**	**Number: Decimals**
• **Solve comparison, sum and difference problems using information presented in a line graph.** • **Complete, read and interpret information in tables, including timetables.** • **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.** 1. Draw line graphs 2. Read and interpret line graphs 3. Read and interpret tables 4. Two-way tables 5. Read and interpret timetables	• **Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.** • **Draw given angles, and measure them in degrees (°)** • **Identify angles at a point and 1 whole turn (total 360°)** • **Use the properties of rectangles to deduce related facts and find missing lengths and angles.** • **Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.** • **Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.** • **Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.** 1. Understand and use degrees 2. Classify angles 3. Estimate angles 4. Measure angles up to 180° 5. Draw lines and angles accurately 6. Calculate angles around a point 7. Calculate angles on a straight line 8. Lengths and angles in shapes 9. Regular and irregular polygons 10. 3-D shapes	• **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. Read and plot coordinates 2. Problem solving with coordinates 3. Translation 4. Translation with coordinates 5. Lines of symmetry 6. Reflection in horizontal and vertical lines	• **Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.** • **Solve problems involving number up to 3 decimal places.** • **Read, write, order and compare numbers with up to 3 decimal places.** • **Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.** • **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.** • **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.** • **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.** • **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.** 1. Use known facts to add and subtract decimals within 1 2. Complements to 1 3. Add and subtract decimals across 1 4. Add decimals with the same number of decimal places

St Mary's Catholic Primary School

			5. Subtract decimals with the same number of decimal places 6. Add decimals with different numbers of decimal places 7. Subtract decimals with different numbers of decimal places 8. Efficient strategies for adding and subtracting decimals 9. Decimal sequences 10. Multiply by 10, 100 and 1,000 11. Divide by 10, 100 and 1,000 12. Multiply and divide decimals – missing values
Number: Negative Numbers	**Measurement: Converting Units**	**Measurement: Volume**	
• **Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.** 1. Understand negative numbers 2. Count through zero in 1s 3. Count through zero in multiples 4. Compare and order negative numbers 5. Find the difference	• **Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre].** • **Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.** • **Solve problems involving converting between units of time.** • **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.** • **Convert between units of measure, including using common decimals and fractions.** • **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.** 1. Kilograms and kilometres 2. Millimetres and millilitres 3. Convert units of length 4. Convert between metric and imperial units 5. Convert units of time 6. Calculate with timetables	• **Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity** • **Estimate volume and capacity [for example, using water].** 1. Cubic centimetres 2. Compare volume 3. Estimate volume 4. Estimate capacity	