Mathematics Curriculum Progression – Year 5

	Autumn 1	Autumn 2	Spring 1
Fluency and Arithmetic	Secure fluency in X-tables Addition and subtraction written strategies – Column Method Multiplication/Division – Short and Long Multiplication/Division	Secure fluency in X-tables Addition and subtraction written strategies – Column Method Multiplication/Division – Short and Long Multiplication/Division	Secure fluency in X-tables Addition and subtraction written strategies – Column Method Multiplication/Division – Short and Long Multiplication/Division
	Spring 2	**Summer 1**	**Summer 2**
	Secure fluency in X-tables Addition and subtraction written strategies – Column Method Multiplication/Division – Short and Long Multiplication/Division Adding and subtracting fractions Mixed numbers and improper Multiplying mixed number fractions Non-unit fractions of quantities	Secure fluency in X-tables Addition and subtraction written strategies – Column Method Multiplication/Division – Short and Long Multiplication/Division Adding and subtracting fractions Mixed numbers and improper Multiplying mixed number fractions Non-unit fractions of quantities	Secure fluency in X-tables Addition and subtraction written strategies – Column Method Multiplication/Division – Short and Long Multiplication/Division Adding and subtracting fractions Mixed numbers and improper Multiplying mixed number fractions Non-unit fractions of quantities

Ready to Progress Criteria National Curriculum Objective

	Autumn Term 1	Autumn Term 2	Spring 1
	Place Value (3 weeks) ***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 nonstandard partitioning*** To read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 To round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 ***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*** ***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***	**Multiplication and Division (3 weeks)** ***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*** ***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.*** To recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) ***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.*** To solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	**Multiplication and Division (3 weeks)** ***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*** ***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.*** To recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) ***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.*** To solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes To solve problems involving multiplication and division, including

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. *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.* To read, write, order and compare numbers with up to 3 decimal places To solve problems involving number up to 3 decimal places To solve number problems and practical problems that involve all of the above To read Roman numerals to 1,000 (M) and recognise years written in Roman numerals. **Addition and Subtraction, (3 weeks)** To add and subtract whole numbers with more than 4 digits, including using formal written methods (column addition and subtraction) To add and subtract numbers mentally with increasingly large numbers To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. **Perimeter (1 week)** To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	**Perimeter (2 weeks)** To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres To calculate and compare the area of rectangles (including squares) including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes	scaling by simple fractions and problems involving simple rates. **Shape (3 weeks)** To identify 3-D shapes, including cubes and other cuboids, from 2-D representations To know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles *Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.* To identify: • angles at a point and 1 whole turn (total 360°) • angles at a point on a straight line and half a turn (total 180°) • other multiples of 90° To use the properties of rectangles to deduce related facts and find missing lengths and angles To distinguish between regular and irregular polygons based on reasoning about equal sides and angles
Spring 2	**Summer 1**	**Summer 2**
Fractions (4 weeks) *Find non-unit fractions of quantities* To compare and order fractions whose denominators are all multiples of the same number To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number To add and subtract fractions with the same denominator and denominators that are multiples of the same number To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	**Volume (1 week)** To estimate volume and capacity **Fractions (2 weeks)** To compare and order fractions whose denominators are all multiples of the same number To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number To 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*	**Decimals and Percentages (2 weeks)** To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths *Recall decimal fraction equivalents for half, quarter, fifth, tenth and for multiples of these proper fractions.* To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents To read and write decimal numbers as fractions To recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with

To read and write decimal numbers as fractions

Convert between units of measure, including using common decimals and fractions

Find equivalent fractions and understand that they have the same value and the same position in the linear number system

To 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

To solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25

Perimeter and Area (2 weeks)
To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
Compare areas and calculate the area of rectangles (including squares) using standard units.

To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

Convert between units of measure, including using common decimals and fractions

Decimals and Percentages (3 weeks)

To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

Recall decimal fraction equivalents for half, quarter, fifth, tenth and for multiples of these proper fractions.

To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

To read and write decimal numbers as fractions

To 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

To solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25

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To solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25

Position and Direction (2 weeks)
To 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.

Statistics (2 weeks)
To solve comparison, sum and difference problems using information presented in a line graph

To complete, read and interpret information in tables, including timetables.