Subject Progression

Mathematics – Year 5

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Secure fluency in multiplication table facts, and corresponding division facts, through continued practice	Secure fluency in multiplication table facts, and corresponding division facts, through continued practice	Secure fluency in multiplication table facts, and corresponding division facts, through continued practice	Secure fluency in multiplication table facts, and corresponding division facts, through continued practice	Secure fluency in multiplication table facts, and corresponding division facts, through continued practice	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).	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).
Mental addition and subtraction	Mental addition and subtraction	Mental addition and subtraction	Mental addition and subtraction	Mental addition and subtraction	Mental addition and subtraction
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	*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*	*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*	*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*	*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*	*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 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.	*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.*	*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*	*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*	*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*	*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	*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*	*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.*	*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.*	*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.*	*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.*
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.	*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*	*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.*	*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.*	*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.*	*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.*
		Addition and subtraction written strategies	*Find equivalent fractions and understand that they have the same value and the same position in the linear number system*	*Find equivalent fractions and understand that they have the same value and the same position in the linear number system*	*Find equivalent fractions and understand that they have the same value and the same position in the linear number system*
		Multiplication and Division strategies			

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Addition and subtraction written strategies Multiplication and Division strategies	*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.* Addition and subtraction written strategies Multiplication and Division strategies		Addition and subtraction written strategies Adding and subtracting fractions Mixed numbers and improper Multiplying mixed number fractions Multiplication and Division strategies Non-unit fractions of quantities	Addition and subtraction written strategies Adding and subtracting fractions Mixed numbers and improper Multiplying mixed number fractions Multiplication and Division strategies Non-unit fractions of quantities	Addition and subtraction written strategies Adding and subtracting fractions Mixed numbers and improper Multiplying mixed number fractions Multiplication and Division strategies Non-unit fractions of quantities

Place Value (3 weeks)	Multiplication and Division (3 weeks)	Multiplication and Division (3 weeks)	Fractions (4 weeks)	Volume (1 week)	Decimals and Percentages (2 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 *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*	*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.*	*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.*	*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 To read and write decimal numbers as fractions	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 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* *Find equivalent fractions and understand that they have the*	To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents To read and write decimal numbers as fractions To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths 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 **Position and Direction (2 weeks)**

hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.

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

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.

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.

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

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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.

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

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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.

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same value and the same position in the linear number system

Decimals and Percentages (3 weeks)

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

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

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

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

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.

Perimeter (1 week) To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres					

RTPC Key Concept Focus Ongoing Fluency Focus Calculation Focus