Subject Progression

Mathematics – Year 6

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Addition/Subtraction BIDMAS Multiplication/Division Multiply/Divide Fractions Multiplying decimals ***Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.*** ***Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.*** ***Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)*** 12x12 Tables Add/Subtract mentally (Y5) Mixed numbers to improper fractions Multiplying decimals	Percentages Add/Take Fractions Continuation of previously learned skills ***Recognise when fractions can be simplified, and use common factors to simplify fractions*** ***Express fractions in a common denomination and use this to compare fractions that are similar in value.*** ***Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy*** ***Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).*** 12x12 Tables Add/Subtract mentally (Y5) Mixed numbers to improper fractions Multiplying decimals Square and Cubed numbers Prime Numbers Factors	Continuation of previously learned skills ***Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)*** ***Recognise when fractions can be simplified, and use common factors to simplify fractions*** ***Express fractions in a common denomination and use this to compare fractions that are similar in value.*** ***Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy*** ***Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).*** 12x12 Tables Multiplying decimals Add/Subtract mentally (Y5) Square and Cubed numbers Prime Numbers Factors	Continuation of previously learned skills ***Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)*** ***Recognise when fractions can be simplified, and use common factors to simplify fractions*** ***Express fractions in a common denomination and use this to compare fractions that are similar in value.*** ***Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy*** 12x12 Tables Multiplying decimals Add/Subtract mentally (Y5) Square and Cubed numbers Prime Numbers Factors	Continuation of previously learned skills ***Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)*** ***Recognise when fractions can be simplified, and use common factors to simplify fractions*** ***Express fractions in a common denomination and use this to compare fractions that are similar in value.*** ***Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy*** 12x12 Tables Multiplying decimals Add/Subtract mentally (Y5)	Continuation of previously learned skills ***Full range of RTPC – including Y7*** 12x12 Tables Multiplying decimals Add/Subtract mentally (Y5)

Place Value (2 weeks) ***Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.*** ***Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.*** ***Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)*** To round any whole number to a required degree of accuracy To use negative numbers in context, and calculate intervals across 0 **Addition. Subtraction, Multiplication and Division (5 weeks)** To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why To identify common factors, common multiples and prime numbers ***Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative***	**Fractions (4 weeks)** ***Recognise when fractions can be simplified, and use common factors to simplify fractions*** ***Express fractions in a common denomination and use this to compare fractions that are similar in value.*** ***Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy*** To add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions To multiply simple pairs of proper fractions, writing the answer in its simplest form To divide proper fractions by whole numbers **Decimals and Percentages (2 weeks)** To associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. To multiply one-digit numbers with up to 2 decimal places by whole numbers To use written division methods in cases where the answer has up to 2 decimal places	**Decimals and Percentages (2 week)** To associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. To multiply one-digit numbers with up to 2 decimal places by whole numbers To use written division methods in cases where the answer has up to 2 decimal places To solve problems involving the calculation of percentages and the use of percentages for comparison **Converting Measures (1 week)** To use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places To convert between miles and kilometres (5 miles = 8Km or 1 mile = 1.6 km) To calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units. To calculate the area of parallelograms and triangles	**Perimeter, Area and Volume (3 weeks)** To recognise that shapes with the same areas can have different perimeters and vice versa To recognise when it is possible to use formulae for area and volume of shapes. **Ratio and Proportion (2 weeks)** ***Solve problems involving ratio relationships*** To solve problems involving similar shapes where the scale factor is known or can be found To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. **Statistics (1 week)** To interpret and construct pie charts and line graphs and use these to solve problems To calculate and interpret the mean as an average	**Algebra (2 weeks)** To use simple formulae To express missing number problems algebraically To generate and describe linear number sequences ***Solve problems with 2 unknowns*** To enumerate possibilities of combinations of 2 variables. **Revision of units (4 weeks)**	**Consolidation of key learning, preparation for KS3 and further application of skills.**

relationships (multiplicative relationships restricted to multiplication by a whole number). To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication To divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context To divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context To multiply one-digit numbers with up to 2 decimal places by whole numbers To use their knowledge of the order of operations to carry out calculations involving the 4 operations ***Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.*** To use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	To solve problems involving the calculation of percentages and the use of percentages for comparison	**Shape (3 weeks)** To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons ***Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.*** To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius To recognise, describe and build simple 3-D shapes, including making nets			

RTPC Key Concept Focus Ongoing Fluency Focus Calculation Focus