Year 6 Medium Term Plan

Year 6 Medium Term Planning Autumn 1	Year 6 Medium Term Planning Autumn 2
Place value and rounding off ● To read, write, order and compare numbers at least to 10,000,000 and determine the value of each digit. ● To round any whole number to a required degree of accuracy. ● To solve number problems and practical problems that involve all of the above.	Written methods for multiplication and division ● To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication. ● To divide numbers up to 4 digits by a two-digit whole number using efficient written methods of long division and interpret remainders as whole numbers, remainders, fractions or by rounding as appropriate in the context.
Mental and written addition and subtraction of large numbers ● To perform mental calculations, including with mixed operations and large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Comparing, ordering and simplifying fractions ● To compare and order fractions, including fractions >1. ● To use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
Multiples, factors and prime numbers ● To perform mental calculations, including with mixed operations and large numbers. ● To identify common factors, common multiples and prime numbers. ● To solve problems involving addition, subtraction, multiplication and division.	Multiplying decimals by 10, 100 and 1000 ● To identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100, 1000 where the answers are up to three decimal places. ● To solve problems which require answers to be rounded to specified degrees of accuracy.
Written methods for multiplication and division: HTU × TU and HTU × U ● To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication. ● To divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context. ● To solve problems involving addition, subtraction, multiplication and division. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Order of operations ● To perform mental calculations, including with mixed operations and large numbers. ● To use their knowledge of the order of operations to carry out calculations involving the four operations. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ● To solve problems involving addition, subtraction, multiplication and division. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
Circles and angles ● To illustrate and name parts of circles, including radius, diameter and circumference. ● To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	2D and 3D shapes ● To draw 2D shapes using given dimensions and angles. ● To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. ● To recognise, describe and build simple 3D shapes, including making nets.
Units of measure ● To solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate. ● 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 three decimal places. ● To convert between miles and kilometres.	Pie charts ● To interpret and construct pie charts and line graphs and use these to solve problems.

Year 6 Medium Term Planning Spring 1	Year 6 Medium Term Planning Spring 2
Negative numbers, and solving problems involving numbers ● To read, write, order and compare numbers at least to 10,000,000 and determine the value of each digit. ● To round any whole number to a required degree of accuracy. ● To use negative numbers in context, and calculate intervals across zero. ● To solve number problems and practical problems that involve all of the above.	Calculating with large numbers ● To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication. ● To divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. ● To perform mental calculations, including with mixed operations and large numbers. ● To use their knowledge of the order of operations to carry out calculations involving the four operations. ● To solve problems involving addition, subtraction, multiplication and division
Mental and written addition and subtraction of decimals and money ● To perform mental calculations, including with mixed operations and large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Multiplying and dividing decimals ● To multiply one-digit numbers with up to two decimal places by whole numbers. ● To use written division methods in cases where the answer has up to two decimal places. ● To solve problems which require answers to be rounded to specified degrees of accuracy.
Mental and written multiplication and division ● To perform mental calculations, including with mixed operation and large numbers. ● To identify common factors, common multiples and prime numbers (Children could practise using mental methods that involve using factors, for example.) ● To use their knowledge of the order of operations to carry out calculations involving the four operations. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Percentages, decimals and fractions ● To solve problems involving the calculation of percentages of whole numbers or measures and the use of percentages for comparison. ● To recall and use equivalences between simple fractions, decimals and percentages, including different contexts.
Calculating with fractions ● To add and subtract fractions with different denominators, using the concept of equivalent fractions. ● To associate a fraction with division to calculate decimal fraction equivalents (0.375) for a simple fraction (3/8). ● To multiply simple pairs of proper fractions, writing the answer in its simplest form (1/4 ÷ 1/2 = 1/8). ● To divide proper fractions by whole numbers (1/3 ÷ 2 = 1/6).	Simple formulae ● To express missing number problems algebraically. ● To use simple formulae expressed in words. ● To find pairs of numbers that satisfy number sentences involving two unknowns. ● To enumerate all possibilities of combinations of two variables.
Reflections and translations on coordinate axes ● To describe positions on the full co-ordinate grid (all four quadrants). ● To draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes.	Area and volume ● To solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places, where appropriate. ● 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 three decimal places. ● To calculate the area of parallelograms and triangles. ● To recognise when it is necessary to use the formulae for area and volume of shapes
Perimeter, area and volume ● To recognise that shapes with the same area can have different perimeters and vice versa. ● To calculate the area of parallelograms and triangles. ● To recognise when it is necessary to use the formulae for area and volume of shapes. ● To calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3) and extending to other units such as mm3 and km3.	Line graphs ● To interpret and construct pie charts and line graphs and use these to solve problems.

Year 6 Medium Term Planning Summer 1	Year 6 Medium Term Planning Summer 2
Problems involving number ● To read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. ● To round any whole number to a required degree of accuracy. ● To use negative numbers in context and calculate intervals across zero. ● To solve number problems and practical problems that involve all the above	Solving problems involving money ● To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication. ● To divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. ● To perform mental calculations, including with mixed operations and large numbers. ● To use their knowledge of the order of operations to carry out calculations involving the four operations. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ● To solve problems involving addition, subtraction, multiplication and division. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
Adding and subtracting large and small numbers ● To perform mental calculations, including with mixed operations and large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations to use and why. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Number puzzles ● To express missing number problems algebraically. ● To use simple formulae expressed in words. ● To generate and describe linear number sequences. ● To find pairs of numbers that satisfy number sentences involving two unknowns. ● To enumerate all possibilities of combinations of two variables.
Long multiplication and division ● To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written methods of long multiplication. ● To divide numbers up to 4 digits by two digit whole numbers using the efficient written method of long division and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context. ● To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Fractions with different denominators ● To multiply simple pairs of proper fractions, writing the answer in its simplest form (1/4 ÷ 1/2 = 1/8). ● To use common factors to simplify fractions; use common multiples to express fractions in the same denomination. ● To add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions.
Working with fractions ● 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.	Problems involving percentages and decimals ● To solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison. ● To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Problems involving percentages, fractions and decimals ● To solve problems involving the calculation of percentages of whole numbers or measures and the use of percentages for comparison. ● To recall and use equivalences between simple fractions, decimals and percentages including in different contexts.	Problems involving measures ● To solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate. ● 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 large unit and vice versa, using decimal notation to three decimal places.
Ratio and proportion ● To solve problems involving the relative size of two quantities where missing values can be found by using integer multiplication and division facts. ● To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. ● To solve problems involving similar shapes where the scale factor is known or can be found.	Using data ● To interpret and construct pie charts and line graphs and use these to solve problems. ● To calculate and interpret the mean as an average.