Year 5 Medium Term Plan

Year 5 Medium Term Planning Autumn 1	Year 5 Medium Term Planning Autumn 2
Place value to 1,000,000 ● To read, write, order and compare numbers at least to 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.	Written methods for multiplication ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ● To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers. ● To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
Mental addition and subtraction ● To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction). ● To add and subtract numbers mentally with increasingly large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Divide 4-digit numbers ● To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context. ● To multiply and divide numbers mentally drawing upon known facts. ● To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
Factors of numbers and prime numbers ● To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ● To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors. ● To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. ● To establish whether a number up to 100 is prime and recall prime numbers up to 19.	Fractions and decimals: tenths and hundredths ● To compare and order fractions whose denominators are all multiples of the same number. ● To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. ● To read and write decimal numbers as fractions (for example, 0.71 = 71/100).
Using multiplication and division facts ● To multiply and divide numbers mentally drawing upon known facts. ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ● To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Decimals: tenths, hundredths, thousandths ● To read, write, order and compare numbers with up to three decimal places. ● To read and write decimal numbers as fractions (for example, 0.71 = 71/100). ● To round decimals with two decimal places to the nearest whole numbers and to one decimal place. ● To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents. ● To solve problems involving number up to three decimal places.
Angles ● To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles ● To draw given angles, and measure them in degrees (º). ● To identify: ● angles at a point and one whole turn (total 360º) ● angles at a point on a straight line and 1/2 a turn (total 180º) ● other multiples of 90º.	2D and 3D shapes ● To distinguish between regular and irregular polygons based on reasoning about equal sides and angles. ● To use the properties of rectangles to deduce related facts and find missing lengths and angles. ● To identify 3D shapes including cubes and cuboids from 2D representations
Length, perimeter and area ● To convert between different units of measure (for example, kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). ● To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints. ● To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. ● To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. ● To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes.	Tables and bar charts ● To complete, read and interpret information in tables, including timetables

Year 5 Medium Term Planning Spring 1	Year 5 Medium Term Planning Spring 2
Negative numbers, and solving problems involving numbers ● To read, write, order and compare numbers at least to 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 through zero. ● To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. ● To solve number problems and practical problems that involve all of the above.	Addition and subtraction: mental and written methods for large numbers ● To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction). ● To add and subtract numbers mentally with increasingly large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ● To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
Addition and subtraction of large numbers and money ● To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction). ● To add and subtract numbers mentally with increasingly large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ● To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. ● To solve problems involving numbers up to three decimal places.	Multiplication and division: written methods ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ● To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers. ● To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context. ● To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.
Long multiplication, square numbers and cube numbers ● To multiply and divide numbers mentally drawing upon known facts. ● To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ● To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. ● To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers. ● To recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3). ● To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	Calculating with fractions ● To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements > 1 as a mixed number: 2/5 + 4/5 = 6/5 = 11/5. ● To add and subtract fractions with the same denominator and multiples of the same number. ● To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
Adding and subtracting fractions ● To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements > 1 as a mixed number: 2/5 + 4/5 = 6/5 = 11/5. ● To add and subtract fractions with the same denominator and multiples of the same number.	Percentages ● To recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction.
Reflections and translations ● 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.	Capacity ● To convert between different units of measure (kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). ● To understand and use basic equivalences between metric units and common imperial units such as inches, pounds and pints. ● To estimate volume and capacity ● To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling
Mass ● To convert between different units of measure (kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). ● To understand and use basic equivalences between metric units and common imperial units such as inches, pounds and pints. ● To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	Line graphs/comparative graphs ● To solve comparison, sum and difference problems using information presented in a line graph.

Year 5 Medium Term Planning Summer 1	Year 5 Medium Term Planning Summer 2
Negative numbers and Roman numerals ● 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 through zero. ● To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. ● To solve number problems and practical problems that involve all of the above. ● To read numerals to 1000 (M) and recognise years written in Roman numerals.	Addition and subtraction of money ● To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction). ● To add and subtract numbers mentally with increasingly large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
Adding and subtracting large and small numbers ● To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction). ● To add and subtract numbers mentally with increasingly large numbers. ● To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ● To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. ● To solve problems involving numbers up to three decimal places.	Multiplication and division of money ● To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers. ● To multiply and divide numbers mentally drawing upon known facts. ● To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. ● To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors. ● To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.
Long multiplication and division with remainders ● To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers. ● To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context. ● To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	Decimals and fractions ● To read, write, order and compare numbers with up to three decimal places. ● To read and write decimal numbers as fractions (for example, 0.71 = 71/100). ● To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents. ● To round decimals with two decimal places to the nearest whole numbers and to one decimal place.
Working with fractions ● To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements > 1 as a mixed number: 2/5 + 4/5 = 6/5 = 11/5. ● To add and subtract fractions with the same denominator and multiples of the same number	Problems involving percentages ● To recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction. ● To solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 4/5 and those with a denominator of a multiple of 10 or 25.
Diagonals and problems involving angles ● To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles ● To draw given angles, and measure them in degrees (º). To identify: ● angles at a point and one whole turn (total 360º) ● angles at a point on a straight line and 1/2 a turn (total 180º) ● other multiples of 90º . ● To use the properties of a rectangle 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.	Perimeter, area and scale drawing ● To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. ● To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. ● To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
Volume, time and money ● To estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water). ● To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling ● To solve problems involving converting between units of time.	Using tables, and line graphs ● To complete, read and interpret information in tables, including timetables. ● To solve comparison, sum and difference problems using information presented in a line graph.