Year 5– Long Term Planning Maths

	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7
Autumn 1	Place value	Place value	Addition and subtraction	Addition and subtraction	Addition and subtraction	Multiplication and division	Assessment
Autumn 2	Place value	Addition and subtraction	Addition and subtraction	Multiplication and division	Multiplication and division	Shape	Assessment
Spring 1	Place value	Addition and subtraction	Multiplication and division	Multiplication and division	Fractions	Perimeter and area	Assessment
Spring 2	Place value	Addition and subtraction	Multiplication and division	Fractions	Fractions	Measures	Assessment
Summer 1	Addition and subtraction	Multiplication and division	Fractions	Fractions	Decimals and percentages	Shape	Assessment
Summer 2	Multiplication and division	Fractions	Decimals and percentages	Decimals and percentages	Decimals and percentages	Decimals	Assessment

Block	Objectives
Place Value	• Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. • Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. • Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000. • Solve number problems and practical problems that involve all of the above. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
Addition and subtraction	• Add and subtract numbers mentally with increasingly large numbers. [For example, 12,462 -2,300 = 10,162] • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why.
Shape	• Identify 3D shapes, including cubes and other cuboids, from 2D representations. • Use the properties of rectangles to deduce related facts and find missing lengths and angles. • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • 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. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees (o) • Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o • Use the properties of rectangles to deduce related facts and find missing lengths and angles.
Multiplication and division	• Multiply and divide numbers mentally drawing upon known facts. • Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. • Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context. • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

	• Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors and including scaling by simple fractions and problems involving simple rates.
Statistics	• Solve comparison, sum and difference problems using information presented in a line graph. • Complete, read and interpret information in tables including timetables.
Fractions	• Compare and order fractions whose denominators are multiples of the same number. • Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number: 2/5 + 4/5 = 6/5 =11/5. • Add and subtract fractions with the same denominator and denominators that are multiples of the same number. • Read and write decimal numbers as fractions (for example, 0.71 = 71/100).) • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
Decimals and percentages	• Read, write, order and compare numbers with up to three decimal places. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with two decimal places to the nearest whole number and to one decimal place. • Solve problems involving number up to three decimal places. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. • 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 100, and as a decimal. • Solve problems which require knowing percentage and decimal equivalents1/2, 1/4, 1/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.
Perimeter and area	• Measure and calculate the perimeter of composite rectilinear shapes in cm and m. • Calculate and compare the area of rectangles (including squares), and including using standard units, cm2,m2 estimate the area of irregular shapes. • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
Position and direction	• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees (o) • Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o • Use the properties of rectangles to deduce related facts and find missing lengths and angles.
Volume	• Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

	• Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
Measuring (converting units)	• Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml) • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Solve problems involving converting between units of time.