Year 5 Maths long term plan 2023-2024

	Autumn 1	Autumn 2		
Teach through maths meetings in autumn term	Multiplication and Division X and ÷ mentally drawing on known facts recall multiplication and division facts for multiplication tables up to 12 × 12use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers recognise and use factor pairs and commutativity in mental calculations			
Autumn	**Number: 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 ¤ interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero ¤ round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 ¤ solve number problems and practical problems that involve all of the above ¤ read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	**Addition and Subtraction Inc decimals** ○ Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ○ add and subtract numbers mentally with increasingly large numbers ○ 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	**Multiplication and Division (1)** ¤ identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers ¤ 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 ¤ multiply and divide numbers mentally drawing upon known facts ¤ multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 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 addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	**Multiplication and Division: Measure** ○ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 ○ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 ○ Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) ○ understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

		methods to use and why ○ solve problems involving number up to two decimal places		

Spring 1			Spring 2	
Spring	Multiplication and Division (2 and 3)	Fractions	Number: decimals	Position and Direction
	○ Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method ○ 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. ○ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign ○ solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	○ Compare and order fractions whose denominators are all multiples of the same number ○ Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths ○ Add and subtract fractions with the same denominator and denominators that are multiples of the same number ○ Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5= = 1 1/5 ○ Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	○ Read and write decimal numbers as fractions [for example, 0.71 = 71/100 ○ 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 ○ Read, write, order and compare numbers with up to three decimal places ○ Solve problems involving number up to three decimal places	○ 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.

Summer 1					Summer 2	
Summer	Percentages	Multiplication and	Fractions	Geometry Shape and Angles	Measure Perimeter/Area Volume	Statistics and Time

	○ 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 ○ solve problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25	**Division (4)** ○ Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-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. ○ solve problems involving multiplication and division, including	○ Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ○ Find fractions of amounts.	○ Identify 3-D shapes, including cubes and other cuboids, from 2-D representations ○ know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles ○ draw given angles, and measure them in degrees (°) ○ draw given angles, and measure them in degrees (o) ○ 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° ○ 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	○ estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] ○ understand and use approximate equivalences between metric units and common imperial units- pints ○ use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. ○ convert between different units of metric ○ measure and calculate the **perimeter** of composite rectilinear shapes in centimetres and metres ○ calculate and compare the **area** of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	○ Solve problems involving converting between units of time ○ Complete, read and interpret information in tables, including timetables.

		scaling by simple fractions and problems involving simple rates.				