St. Mary's C of E Primary

Maths - Year 5 end of year expectations	
National Curriculum objectives	
Number and 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 0
	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
	read Roman numerals to 1,000 (M) and recognise years written in Roman numerals
Addition and Subtraction	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	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
Multiplication and Division	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 numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
	multiply and divide numbers mentally drawing upon known facts
	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
	multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
	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
	solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

Fractions, decimals and percentages	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
	recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
	add and subtract fractions with the same denominator and denominators that are multiples of the same number
	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
	read and write decimal numbers as fractions
	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
	round decimals with 2 decimal places to the nearest whole number and to 1 decimal place
	read, write, order and compare numbers with up to 3 decimal places
	solve problems involving number up to 3 decimal places
	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 fractions with a denominator of a multiple of 10 or 25
Measurement	convert between different units of metric measure
	use all four operations to solve problems involving measure using decimal notation including scaling
	understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
	calculate and compare the area of rectangles (including squares) including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes
	estimate volume and capacity
	solve problems involving converting between units of time

Properties of Shape	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 (°)
	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
Position and Direction	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
Statistics	solve comparison, sum and difference problems using information presented in a line grap
	complete, read and interpret information in tables, including timetables