'Assessing Without Levels' ~ *Progress & Attainment Against Expectations*			
Mathematics Curriculum 2014: Year 5			
	Emerging	**Expected**	**Exceeding**
Numbers & the number system			
• Read, write, order and compare numbers up 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 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.			
Calculation ~ addition & subtraction			
• Add and subtract whole numbers with more than 4 digits, including using formal methods (columnar + & -)			
• Add and subtract numbers mentally with increasingly large numbers.			
Calculation ~ multiplication & division			
• Identify multiples & factors; find all factor pairs of a number & common factors of 2 numbers.			
• Know & use the vocabulary of prime numbers, prime factors & composite non-prime numbers			
• Establish whether a number up to 100 is prime; recall primes up to 19			
• Multiply numbers up to 4 digits by a one or two-digit number using a formal 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; interpret remainders appropriately for the context			
• Multiply and divide whole numbers and those involving decimals by 10, 100 & 1000.			
• Recognise and use square numbers & cube numbers and notation for squared ^{2}, cubed ^{3}			
• Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes			
• Solve problems involving + - x ÷ and a combination of these, including understanding meaning of = sign			
• Solve problems involving x and ÷ including scaling by simple fractions & problems involving simple rates.			
Calculation ~ Fractions, Decimals & Percentages			
• Compare & order fractions whose denominators are all multiples of the same number			
• Identify, name & write equivalent fractions of a given fraction, represented visually, inc. $^1/_{10}$ & $^1/_{100}$			

• Recognise mixed numbers & improper fractions; convert from one form to the other; write mathematical statements > 1 as a mixed number [e.g. $^2/_5 + ^4/_5 = ^6/_5 = 1^1/_5$]			
• Add & subtract fractions with the same denominator & denominators that are multiples of the same number.			
• Multiply proper fractions & mixed numbers by whole numbers, supported by materials & diagrams.			
• Read and write decimal numbers as fractions [e.g. $0.71 = ^{71}/_{100}$]			
• Recognise and use $^1/_{1000}$ and relate them to $^1/_{10}$, $^1/_{100}$ & 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 with number to three decimal places.			
• Recognise the per cent symbol (%) and understand that per cent relates to 'the number of parts per 100' and write percentages as a fraction with denominator hundred; 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 with a denominator of a multiple of 10 or 25.			
Measures			
• Convert between different units of metric measure [e.g. 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.			
• 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 (cm^2) & square metres (m^2) and estimate the area of irregular shapes			
• Estimate volume [eg. using 1 cm^3 blocks to build cuboids including cubes] and capacity [e.g. using water]			
• Solve problems involving converting between units of time.			
• Use all four operations to solve problems involving measure [for example length, mass, volume, money] using decimal notation including scaling.			
Shape and Space			
• 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 (^{o})			
• Identify: angles at a point and one whole turn (total 360^o); angles at a point on a straight line and ½ a turn (total 180^o); other multiples of 90^o			
• 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.			

Statistics			
• Solve comparison sum and difference problems using information presented in a line graph.			
• Complete, read and interpret information in tables, including timetables.			