Willow Fields Primary School Assessment Ma 2 Calculation – BAND 5

Pupil Name   Class / Group: Date:

	Counting and understanding number		Knowing and using number facts	Calculating		
	Number and place value	Fractions	Operations and relationships between them	Mental methods	Solving numerical problems	Written methods
BAND 5	**Read, write, order and compare numbers to at least 1000000 and determine the value of each digit** **Count forwards or backwards in steps of powers of 10 for any given number to 1000000** **Use understanding of place value to multiply whole numbers and decimals by** **-10** **-100** **-1000** **Use understanding of place value to divide whole numbers and decimals by** **-10** **-100** **-1000** **Round any number to 1000000 to the nearest** **-10** **-100** **- 1000** **- 10000** **-100000** **Round decimals with up to two decimal places to the nearest whole number and to one decimal place** **Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0** **Solve number problems and practical problems that involve ordering and comparing numbers to 1,000,000 counting forwards and backwards in steps, interpreting negative numbers and rounding** **Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers** **Recognise and use squared and cubed numbers using ²and ³** **Read Roman numerals up to 1000 (M) and recognise years written in Roman Numerals**	**Compare and order fractions whose denominators are all multiples of the same number** **Identify, name and write equivalent fractions of a given fraction including tenths and hundredths** **Write equivalent fractions of a given fraction, represented visually, including tenths and hundredths** **Recognise mixed numbers and improper fractions and convert from one to another and write mathematical statements >1 as a mixed number e.g. 2/5 + 4/5 =1 1/5** **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 e.g. 0.71 as 71/100** **Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents** **Read, write, order and compare numbers with up to 3 decimal places** Order fractions and decimals e.g. *-order fractions with different denominators* *-order decimals that have a mixture of 1, 2 or 3 decimal places* **Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25**	Use known facts, place value and knowledge of operations to calculate e.g. *-calculate decimal complements to 10* *-calculate decimal complements to 100* *(both adding and subtracting)* *-multiply a two-digit number by a single digit e.g. 39x7* *-calculate simple fractions of a number or quantity e.g.3/8 of 400g* **Recognise the % symbol and understand that it relates to the 'number of parts per 100'; and write percentages as a fraction with denominator 100 and as a decimal** **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** Understand simple ratio	Add and subtract negative numbers in context **Add and subtract numbers mentally with increasingly large numbers** Estimate using approximations **Multiply and divide numbers mentally drawing upon known facts** Use all four operations with decimals to two places e.g. *-add numbers which do not have the same number of decimal places* *-subtract numbers which do not have the same number of decimal places* *-multiply decimal numbers by a single digit* *-divide decimal numbers by a single digit* Calculate fractions of quantities and measurements e.g. 3/8 of 980 Calculate percentages of numbers, quantities and measurements e.g. 15% of 360g	Solve simple problems involving ordering, adding and subtracting negative numbers in context **Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why** Solve simple problems involving ratio and direct proportion e.g. *-begin to use multiplication rather than trial and improvement to solve ratio problems* **Solve problems involving multiplication and division using their knowledge of factors, multiples, squares and cubes** **Solve problems involving addition and 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 using simple rates** **Solve problems involving number up to three decimal places**	**Add and subtract whole numbers with more than four digits, including formal written methods (columnar addition and subtraction)** **Multiply numbers up to 4 digits by a one-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 interpreting remainders appropriate for the context e.g. as a remainder or a fraction** Use appropriate non-calculator methods for solving problems that involve dividing a three-digit number by a two-digit number **Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy** Construct, express in symbolic form and use simple formulae involving one or two operations e.g. *-understand simple expressions using symbols e.g. 2 less than n can be written as n-2* *-evaluate expressions by substituting numbers into them* *-use symbols to represent an unknown number or a variable* Use and interpret co-ordinates in all four quadrants