Netherbrook Primary School

Mathematics Assessment: Stage 5

	Number and Place Value		
1	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	18	Establish whether a number up to 100 is prime and recall prime numbers up to 19.
2	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.	19	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including grid method for two-digit numbers.
3	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	20	Multiply and divide numbers mentally drawing upon known facts.
4	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	21	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.
5	Read Roman numerals to 1000 (M) and recognize years written in Roman numerals.	22	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
6	Read and write and order numbers with up to 3 decimal places and partition numbers with 2 decimal places in different ways.	23	Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).
7	Round decimals with two decimal places to the nearest whole number and to one decimal place.	24	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.
8	Find 0.1 and 0.01 more or less than a given number.	25	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.
9	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	26	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
	Addition, Subtraction, Multiplication and Division	27	Develop doubling and halving strategies linked to times tables e.g. multiply by 50 by multiplying by 100 and halving, divide by 50 by dividing by 100 and doubling.
10	Add and subtract whole numbers with more than 4 digits.		**Fractions, Decimals and Percentages**
11	Add and subtract at least 2 whole numbers with more than 4 digits and decimals with up to two decimal places, including using formal written methods (columnar)	28	Compare and order fractions whose denominators are all multiples of the same number.
12	Add and subtract numbers mentally with increasingly large numbers (example, 12 462 – 2300 = 10 162).	29	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
13	Use estimation, use of inverse and rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	30	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 = 6/5 = 11/5].
14	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why (including those with missing numbers).	31	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
15	Add and subtract whole numbers with more than 4 digits.	32	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
16	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	33	Read and write decimal numbers as fractions and percentages [for example, 0.71 = 71/100 = 71%].
17	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	34	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
		35	Solve problems involving numbers up to three decimal places.

36	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.	47	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2)
35	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	48	Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water].
Geometry: Properties of shape		49	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
36	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	50	Estimate the area of irregular shapes.
37	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	51	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
38	Identify and describe the properties of 2D shapes: language; length of lines; angles; and symmetry.	**Statistics**	
39	Draw given angles, and measure them in degrees (˚) and Identify: angles at a point and one whole turn (total 360˚); angles at a point on a straight line and 1/2 a turn (total 180˚); other multiples of 90˚.	52	Solve comparison, sum and difference problems using information presented in a line graph.
40	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	53	Complete, read and interpret information in tables, including timetables.
41	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	54	Collate and interpret the mode, median and range.
42	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces, length of lines and acute and obtuse angles.	**Algebra**	
Geometry: Position and direction		55	Use multi-step function machines starting with an answer (include 4 operations and negative numbers).
43	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.	56	Solve missing number problems involving: the 4 operations; number facts; place value
44	Describe positions on the full coordinate grid (all four quadrants and identify a missing vertex of a shape on an unlabeled axis.	57	Calculate number sentences with two unknowns which are on different sides of the balance e.g. □ + 3 = 20 - △
Measurements		58	Recognise and describe non-linear sequences (e.g. square numbers and primes).
45	Convert between different units of metric measure and time(for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	59	Generate, continue, recognize and describe linear number sequences (e.g. 3, 3 ½ , 4, 4 ½) including those involving fractions, decimals and negative numbers and find the term to term rule (e.g. add ½)
46	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	60	Continue and describe growing patterns, recording results in a table and predict next terms.

Assessment Guidance

Assessment Stage	5.1	5.2	5.3	5.4	5.5	5.6
Typical Attainment time	Late Oct	Mid Jan	Late Mar	Mid May	Late July	Late July
Approximate percentage of curriculum mastered	20%	40%	60%	80 – 85%	95 – 100%	Exceeding stage expectations