Netherbrook Primary School

Mathematics Assessment: Stage 6

	Number and Place Value
1	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
2	Read and write numbers with up to three decimal places and understand the place value of each digit.
3	Round any whole number to a required degree of accuracy.
4	Round decimals with up to three decimal places to the nearest whole number or one or two decimal places.
5	Use negative numbers in context, and calculate intervals across zero.
6	Count forwards and backwards in a range of fractional and decimal steps up to 3 dp
7	Use <, > and = to compare 2 calculations using the 4 operations.
8	Find 0.1, 0.01 and 0.001 more or less than a given number.
9	Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3dp.
10	Solve number and practical problems that involve all of the above.
	Addition, Subtraction, Multiplication and Division
11	Multiply multi-digit numbers up to 4 digits by a two-digit whole number.
12	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
13	Multiply and divide one-digit numbers with up to two decimal places by whole numbers (1.46 x 3)
14	Divide numbers up to 4 digits by a two-digit number using the formal written method of short division and interpret remainders as whole number remainders, fractions or decimals as appropriate for the context.
15	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of additive chunking, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
16	Perform mental calculations, including with mixed operations and large numbers.
17	Divide one-digit numbers with up to 2 decimal places by 1 and then 2 digit whole numbers.
18	Double and halve any number including decimals.
19	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.
20	Identify common factors, common multiples and prime numbers.
21	Use their knowledge of the order of operations to carry out calculations involving the four operations.
22	Solve problems involving addition, subtraction, multiplication and division (including those with missing numbers)
23	Use rounding, use of inverse and estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
24	Explore the order of operations using brackets e.g. 2 + 1 x 3 = 5 or (2 + 1) x 3 = 9
25	Recall and use addition and subtraction facts for 0.1 and also numbers 1 to 10 (up to 2dp).
26	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
27	Add and subtract at least 2 whole numbers with more than 4 digits and decimals with up to 3dp using formal written methods of columnar addition and subtraction.
	Algebra
28	Use multi-step function machines starting with an answer (includes 4 operations and negative numbers).
29	Generate and describe linear number sequences and non-linear sequences such as square numbers, triangular numbers
30	Express missing number problems algebraically.
31	Use simple formulae.
32	Find pairs of numbers that satisfy an equation with two unknowns 50 - □ = △ + 10
33	Generate a formula to describe the nth term in a pattern e.g. 2n + 2
34	Enumerate possibilities of combinations of two variables e.g. 4a + 6b = 50

	Fractions, Decimals and Percentages		Geometry: Properties of shape
35	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.	50	Draw 2-D shapes using given dimensions and angles.
36	Compare and order fractions, including fractions > 1.	51	Recognise, describe and build simple 3-D shapes, including making nets.
37	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	52	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
38	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8].	53	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius d = 2 x r.
39	Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6].	54	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
40	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8].	55	Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces, lengths of lines and acute and obtuse angles.
41	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.		**Ratio and Proportion**
42	Solve problems involving the calculation of percentages (for example of measures and such as 15% of 360) and the use of percentages for comparison.	56	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Use notation a:b.
43	Write percentages as a fraction with denominator 100, and as a decimal.	57	Solve problems involving similar shapes where the scale factor is known or can be found.
	Statistics		**Measurements**
44	Interpret and construct pie charts and line graphs and use these to solve problems.	58	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
45	Calculate and interpret the mean as an average.	59	Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.
46	Understand and use a greater range of scales in their representations.	60	Convert between miles and kilometres.
47	Interpret a reading that lies between two numbered divisions on a scale.	61	Recognise that shapes with the same areas can have different perimeters and vice versa.
	Geometry: Position and direction	62	Recognise when it is possible to use formulae for area and volume of shapes.
48	Describe positions on the full coordinate grid (all four quadrants).	63	Calculate the area of parallelograms and triangles.
49	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	64	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].

Assessment Guidance

Assessment Stage	6.1	6.2	6.3	6.4	6.5	6.6
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