## Eastfield Mathematics Expectations

Pupil's Name: \_\_\_\_\_

## Year 5 Mathematician

1	Number - Place Value	
1		
	I can count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000.	
2	I can read, write, order and compare numbers to at least 1,000,000.	
3	I can determine the value of each digit in numbers up to 1,000,000.	
4	I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100000.	
5	I can count forwards and backwards with positive and negative numbers, including through zero.	
6	I can interpret negative numbers in context (temperature and co-ordinate grids).	
7	I can solve number problems and practical problems with the above.	
8	I can read Roman numerals to 1,000 (M) and recognise years written in Roman Numerals.	
1	I have a concept of numbers well beyond 1,000,000 and their relative association to distances to planets; historical data and geographical aspects.	
2	I can link working across zero for positive and negative numbers, e.g. to calculate time intervals.	
	Number – Addition and Subtraction	
9	I can add and subtract numbers mentally with increasingly large numbers (12,462-2300 = 10,162).	
10	I can add and subtract whole numbers with more than 4 digits, including using formal written	
	methods.	
11	I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	
12	I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	
3	I can use rounding as a strategy for quickly assessing what approximate answers ought to be before calculating.	
	Number – Multiplication and Division	
13	I can identify multiples and factors, including finding all factor pairs of a number and common	
	factors of two numbers.	
14	I use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	
15	I can establish whether a number up to 100 is prime and recall prime numbers up to 19.	
16	I recognise and use square numbers and cube numbers, and the notation for squared and cubed.	
17	I can multiply and divide numbers mentally drawing on known facts.	
18	I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	
	I can multiply numbers up to 4 digits by a 1- or two-digit number using a formal written method, including long multiplication for two-digit numbers.	
20	I can divide numbers up to 4 digits by a 1-digit number using the formal written method of short	
	division and interpret remainders appropriately for the context.	
21	I can solve problems involving multiplication and division including using knowledge of factors and	
	multiples, squares and cubes.	
22	I can solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	
23	I can solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates.	
4	I can identify and explain links between multiplication facts beyond the 12 times table. For example, 25 x 48 =, 100 x 48 = 4800, x 48 = 4848.	
	Number – Fractions (including decimals and percentages)	
24	I can 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 = 1 1/5]	
25	I can identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	
26	I can compare and order fractions whose denominators are multiples of the same number.	
27	I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.	

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28	I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and	
20	diagrams.	
29	I can read and write decimal numbers as fractions.	
30	I recognise and can use thousandths and relate them to tenths, hundredths and decimal equivalents.	
31	I can round decimals with 2 decimal places to the nearest whole number and 1 decimal place.	
32	I can read, write, order, compare and solve problems involving numbers with up to 3 decimal places.	
33	I recognise the percent symbol (%) and understand that percent relates to 'number parts per hundred'.	
34	I can write percentages as a fraction (with a denominator of 100) and as a decimal.	
35	I can solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{4}{5}$ and those fractions with a denominator or a multiple of 10 or 25.	
5	I can use = < > to compare proper and improper fractions.	
	Measurement	
36	I can solve problems involving converting between units of time.	
37	I can convert between different units of metric measure.	
6	I can convert measurements that involve decimals and explain how.	
38	I understand and use approximate equivalences between metric units and common imperial units (e.g. cm to inches; g to pounds; ml to pints).	
39	I can measure and calculate the perimeter of compound shapes in cm and m.	
40	I can calculate and compare the area of rectangles (including squares), using standard units (cm <sup>2</sup> and m <sup>3</sup> ) to estimate the area of irregular shapes.	
41	I can explain the difference between volume and capacity.	
42	I can estimate volume (for example, using 1cm <sup>3</sup> blocks to build cuboids or cubes) and capacity (for example using water).	
43	I can use all four operations to solve problems involving measure using decimal notation, including scaling.	
44	I can solve problems involving converting between units of time.	
7	I can order time in different units e.g. 400 minutes, 18 000 seconds, 1/3 of a day or 6 hour).	
	Geometry – Properties of Shapes	
45	I can use the properties of rectangles to deduce related facts and find missing lengths and angles.	
46	I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	
47	I can identify 3D shapes, including cubes and other cuboids, from 2D representations.	
48	I know that angles are measured in degrees and can estimate and compare acute, obtuse and	
	reflex angles.	
49		
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