Brentfield Primary School

Children of Today, Champions for Tomorrow

Progression in Statistics, Algebra and Ratio and Proportion

All programmes of study statements are included in the progression map and some appear twice. This is indicated in the text. This occurs where:

- The statement has central relevance to more than one sub category within a topic;
- The statement has central relevance to more than one mathematics topic. This is done to reflect the aims of the curriculum that pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

PROGRESSION IN STATISTICS							
	EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
INTERPRETING, CONSTRUCTING AND PRESENTING DATA			• interpret and construct simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data	• interpret and present data using bar charts, pictograms and tables	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	• complete, read and interpret information in tables, including timetables	• interpret and construct pie charts and line graphs and use these to solve problems
SOLVING PROBLEMS				• solve one-step and two-step questions [e.g. 'How many	• solve comparison, sum and difference	• solve comparison, sum and difference	• calculate and interpret the mean as an average

				more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	problems using information presented in bar charts, pictograms, tables and other graphs.	problems using information presented in a line graph	
PROGRESSION IN ALGEBRA							
	EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
EQUATIONS		• *solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and* ***missing number problems*** *such as* *7 = □ - 9* (copied from Addition and Subtraction) • *represent and use number bonds and related subtraction facts within 20* (copied from Addition and Subtraction)	• *recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number*** *problems.* • (copied from Addition and Subtraction) • *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* • (copied from Addition and Subtraction)	• solve problems, *including* ***missing number*** *problems, using number facts, place value, and more complex addition and subtraction.* (copied from Addition and Subtraction) • *solve problems, including* ***missing number*** *problems, involving multiplication and division, including integer scaling*		• *use the properties of rectangles to deduce related facts and find* ***missing lengths and angles*** (copied from Geometry: Properties of Shapes)	• express missing number problems algebraically • find pairs of numbers that satisfy number sentences involving two unknowns enumerate all possibilities of combinations of two variables

FORMULAE					*Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (Copied from NSG measurement)*		• use simple formulae • *recognise when it is possible to use **formulae** for area and volume of shapes* (copied from Measurement)
SEQUENCES		• *sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening* (copied from Measurement)	• *compare and sequence intervals of time* (copied from Measurement) • *order and arrange combinations of mathematical objects in patterns* (copied from Geometry: position and direction)				• generate and describe linear number sequences

PROGRESSION IN RATIO AND PROPORTION

Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division

Year 6 Coverage:

- solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
- Solve problems involving similar shapes where the scale factor is known or can be found
  solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.