Northwick Park Academy Trust Maths Long Term Plan Overview

	Autumn		Spring		Summer	
	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	**Place Value** Counting, reading, writing numbers to 10 Order and compare numbers to 10 One more and one less to 10 Ordinal numbers **Position and Direction** Use the language of position and direction.	**Place Value** Partition numbers to 10 **Addition and subtraction** Addition and subtraction facts within 10 Reading and writing equations Addition and subtraction of one-digit numbers Commutative law Inverse within 10 **Geometry** Recognise and name common 2-D	**Place Value** Counting, reading, writing numbers to 20 Order and compare numbers to 20 One more and one less to 20 Use of < > and =. **Measures** Compare, describe and solve practical problems for lengths/heights/weights/capacity Measure and begin to record lengths and heights, mass/weight, capacity and volume	**Number** Number bonds within 20 Add and subtract to 20 One-step problems that involve addition and subtraction **Money** Recognise value of different coins and notes **Fractions** Half and quarter	**Place Value** Odd and even numbers **Multiplication and Division** Counting in steps of 2, 5 and 10 One-step problems - multiplication and division **Time** Sequence events Days of the week and months of the year. Time – o'clock and half past **Geometry** Recognise and name 3-D shapes Making 2D and 3D shapes	**Place Value** Counting within 100 Read and write numbers to 100 Numbers to 20 in words Place Value – partitioning of two digit numbers **Position and Direction** Whole, half, quarter and three quarter turns. **Time** Practical problems for time Measure and begin to record time

Year 2	**Place Value** Read, write, compare and order numbers to at least 100 Use <, > and = signs Partitioning two digit numbers **Mental calculations** Addition and subtraction facts within 10 Add and subtract across 10. Commutative law Add and subtract numbers using concrete objects, pictorial representations, and mentally, Doubles and halves to 20 **Geometry** Name common 2D and 3D Describe their properties	**Multiplication and Division** Count in steps of 2, 3 and 5 Multiplication and division facts for the 2, 5 and 10 multiplication tables Odd and even numbers. **Addition and subtraction** Addition and subtraction facts to 20 Solve problems with addition and subtraction Add and subtract a one-digit number within 100 Add and subtract ones or tens to/from a two-digit number. Solve problems with addition and subtraction **Money** Use symbols for pounds (£) and pence (p); Combine amounts Find different combinations Solve simple problems	**Multiplication and Division** Repeated addition Grouping Commutative law Solve problems **Fractions** 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity Write simple fractions Recognise the equivalence of 2/4 and 1/2 **Time** Sequence intervals of time. Quarter past/to the hour Number of minutes in an hour and the number of hours in a day **Number** Addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	**Number** Count in tens from any number Read and write numbers to at least 100 in words Add and subtract any two-digit numbers. Subtraction as difference Inverse for checking and missing numbers Estimating numbers Solve problems with addition and subtraction **Patterns and sequences** Order and arrange combinations of mathematical objects in patterns and sequences	**Statistics** Pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions Ask and answer questions about totalling and comparing **Measures** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) Compare and order lengths, mass, volume/capacity Read scales	**Number** Addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Solve problems with addition and subtraction involving numbers, quantities and measures Geometry Precise language to describe the properties of 2D and 3D shapes, Compare shapes. **Position and Direction** Describe position, direction and movement, including movement in a straight line Describe rotation as a turn

Year 3					
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables. **Place Value** Read and write numbers to at least 1000 in numerals and words. Partitioning of three digit numbers Find 10 or 100 more or less Compare and order numbers up to 1000 Solve number problems and practical problems involving these ideas **Mental addition and subtraction** Addition and subtraction facts that bridge 10 Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. **Statistics** Interpret and present data in bar charts, pictograms and tables Solve one-step and two-step questions	Recall and use multiplication and division facts for the 3 multiplication tables. **Addition and subtraction** Number bonds to 100. Written methods for addition and subtraction Inverse Commutative property Estimation of answers and inverse operations to check Solve problems, including missing number problems Add and subtract amounts of money Give change **Geometry** Identify right angles Identify angles greater than or less than a right angle Recognise angles as turns	**Multiplication and division** Count from 0 in multiples of 4, 8, 50 and 100 Recall and use multiplication and division facts for the 3 and 4 multiplication tables. Mental methods for multiplication and division Solve problems **Fractions (revision)** Recap on Fractions from Year 2 – **Measures** Measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Perimeter of simple 2-D shapes	**Multiplication and division** Recall multiplication facts and corresponding division facts in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. **Fractions and decimals** Count up and down in tenths Interpret and write proper fractions to represent 1 or several parts of a whole Find unit fractions of quantities Ordering fractions Equivalent fractions Add and subtract fractions with the same denominator, within 1. Solve fraction problems	**Multiplication and division** Calculate mathematical statements for multiplication and division including for two-digit numbers times one-digit numbers, using formal written methods **Time** Tell and write the time from an analogue clock Tell and write the time from a 12 hour and 24-hour clock. Use Roman numerals from I to XII, Estimate and read time with increasing accuracy to the nearest minute. Vocabulary of time Seconds in a minute and the number of days in each month, year and leap year Compare durations of events	**Number** Related addition and multiplication facts using place value Divide 100 into 2,4,5 and 10 equal parts, and read scales/numbers lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. **Geometry** Draw polygons Identify parallel and perpendicular sides. Make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations

Year 4					
Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables.	*Recall and use multiplication and division facts for the 6 and 9 multiplication tables.*	*Recall and use multiplication and division facts for the 7 and 11 multiplication tables.*	*Recall and use multiplication and division facts for the 12 multiplication table*	Recall multiplication and division facts up to 12 x 12, and recognise products in multiplication tables as multiples of a corresponding number.	Understand and apply the distributive property of multiplication.
Place Value Partitioning four digit numbers Compare and order numbers Find 1000 more or less Rounding Roman Numerals Solve problems. **Addition and subtraction** Column addition and subtraction Estimate and use inverse operations to check answers to a calculation **Measures (length and capacity)** Convert between different units of measure for length and capacity. Estimate, compare and calculate different measures.	**Multiplication and division (mental)** Count in multiples of 6, 7, 9, 25 and 1000 Multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers Commutative property of multiplication. Solve division problems that involve remainders, and interpret remainders appropriately according to the context. **Time** Read, write and convert time between analogue and digital 12- and 24-hour clocks Solve problems	**Multiplication and division** Multiply and divide whole numbers by 10 and 100 Multiplication using formal written layout **Geometry** Identify regular and irregular polygons, including equilateral triangles and squares, Perimeter of regular and irregular polygons. Area of rectilinear shapes Identify acute and obtuse angles Compare and order angles Symmetry Coordinates Translation	**Decimals** Count up and down in hundredths. Recognise and write decimal equivalents Divide a one- or two-digit number by 10 and 100 Recognise and write decimal equivalents to ¼, ½ and ¾ Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places Solve simple measure and money problems involving decimals to two decimal places **Addition and subtraction** Solve addition and subtraction two-step problems **Measures (weight)** Convert between different units of measure for weight Estimate, compare and calculate different measures	**Fractions and decimals** Equivalent fractions Solve problems involving fractions Add and subtract fractions with the same denominator *Add and subtract improper and mixed fractions with the same denominator* *Reason about the location of mixed numbers in the linear number system.* *Convert mixed numbers to improper fractions and vice versa.* Solve simple measure and money problems involving fractions and decimals to two decimal places	**Number** Read Roman numerals to 100 Count backwards through zero to include negative numbers **Statistics** Bar charts and time graphs. Solve comparison, sum and difference problems

Year 5					
Place Value Read, write, order and compare numbers to at least 1 000 000 Count forwards or backwards in steps of powers of 10 Negative numbers Round to the nearest 10, 100, 1000, 10 000 and 100 000 Solve number problems **Addition and subtraction** Formal written methods Add and subtract numbers mentally Rounding to check answers to calculations Addition and subtraction multi-step problems. **Statistics** Comparison, sum and difference problems Complete, read and interpret information in tables, including timetables.	**Multiplication and division** Multiplication tables and corresponding division facts Multiply and divide numbers mentally Multiply and divide numbers by 10 and 100 Factors and multiples Common factors and common multiples Prime numbers Squared numbers and cubed numbers Solve problems involving multiplication and division Multiplication using a formal method. Division using a formal written method, and interpret remainders **Geometry** Compare, estimate and measure angles Draw angles of given sizes. Angles on a straight line or round a point.	**Number** Read Roman numerals to 1000 (M) and recognise years written in Roman numerals **Fractions** Fractions of quantities. Equivalent fractions Compare and order fractions Mixed numbers and improper fractions Add and subtract fractions Multiply proper fractions and mixed numbers by whole numbers **Measures** Convert between different units of metric measure. Equivalences between metric units and common imperial units such as inches, pounds and pints	**Decimals** **Equivalence of decimals** **Place value of decimals** **Compare and order decimals** **Rounding decimals** Solve problems Read and write decimal numbers as fractions Decimal fraction equivalents Introduction of percentage Percentages as fraction and decimals **Measures** Perimeter of composite rectilinear shapes Area.	**Four operations** Multiplication by a one or two-digit number using a Formal written method. Solve problems involving all four operations **Position and direction** Coordinates Reflection Translation **Time** Solve problems involving converting between units of time	**Number** Related addition and multiplication facts using place value including decimals Four operations to solve problems involving measure e.g. length, mass, volume, money using decimal notation, including scaling **Geometry** Properties of rectangles Regular and irregular polygons Identify 3-D shapes, including cubes and other cuboids, from 2D representations **Measures** Estimate volume

Year 6					
Place Value Value of digits in whole numbers and decimals Order, compare and round whole numbers and decimals to 3 decimal places. Use negative numbers in context Solve number and practical problems **Number** Multiply and divide whole numbers and decimals by 10, 100 or 1000. Perform mental calculations, Solve addition and subtraction multi-step problems Long multiplication Short division BIDMAS **Multiplication and Division** Long division Common factors, multiples and prime numbers	**Fractions** Simplifying fractions Compare fractions Add and subtract fractions Multiply fractions Divide a fraction by a whole number Calculate decimal equivalent Fractions, decimals and percentages equivalents **Geometry** Compare shapes Finding unknown angles and sides based on properties Recognising angles at a point, straight line and vertically opposite Finding missing angles **Position and Direction** Coordinates in four quadrants Translation Reflection.	**Number** Multiply decimal number by a whole number Divide with the answer as a decimal Solve problems which require answers to be rounded to specified degrees of accuracy Solve problems involving addition, subtraction, multiplication and division Use estimation to check answers **Algebra** Simple formulae Generate and describe linear number sequences Express missing number. Solve problems with 2 unknowns. **Measures** Conversion of measures Solve problems involving measures Convert between miles and kilometres Area and perimeter Use formula for area and perimeter Area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids	**Ratio and proportion** Solve problem finding missing values using ratios Solve problems involving the calculation of percentages Scale factors Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. **Statistics** Interpret and construct pie charts Interpret and construct line graphs line graphs Solve problems Mean **Geometry** Circles Draw shapes according to properties Recognise, describe and build simple 3-D shapes, including making nets	**Any remaining time before SATs will be used to consolidate key learning.**	**POST SATS** Maths projects Preparation for KS3