Brookdale Primary School, **Maths** Whole School Progression Map

	F2	Y1	Y2
Place Value and number	Count to 20 and write the digits. Double numbers up to 10. Halve small numbers by sharing objects and pictures. Identify numbers one more and one less than a given number up to 20 and order them.	Count and write to numbers to 20. Compare and order numbers and see patterns within 20.	Count, write and explore numbers to see patterns within 100.
Addition and Subtraction	Combine groups of objects to make totals of up to and including 10 by counting on. Show subtraction of small numbers by crossing out and counting back. Solve simple problems involving number.	Add and subtract numbers within 20. Explore different ways to make numbers up to 10. Compare - specifically looking at how many more or how many fewer/less.	Add and subtract mentally by applying number bonds as well as using the standard column method. Use addition and subtraction to help solve word problems.

Multiplication and Division		Learn the foundations of equal groupings, repeated addition, arrays and doubling. Share small numbers into a specific number of groups.	Learn about both the multiplication and division of 2, 5 and 10. Look for patterns in multiplication and we will understand the commutative law.
Fractions		Make halves and quarters and make the connection between fractions and division.	Learn that fractions are equal parts. Name fractions of the same denominations. Understand how many quarters, halves and thirds make a whole. Explore how to order and compare fractions. Learn how to find fractions of a set of objects or part of a quantity.
Measures and Money	Use everyday language to talk about the size, length, mass or capacity of objects and use the language of comparison. Use language associated with time. Begin to understand that money has value.	Compare different lengths and describe whether something is taller, longer, shorter or higher. Measure two items fairly for comparison using items and body parts before moving onto measuring using a ruler. Compare volume and capacity, using terms such as 'more than' and 'less than'. Measure volume and capacity using non-standard units. We will be describing volume using the terms	Understand what a metre is and what centimetres are and measure using them as units. Learn how to read scales, to compare the weight of different objects in Kg and g. Measure temperature. Read thermometers using Celsius. Write and count money.

		'half' and 'quarter.' Compare mass using terms such as 'heavy/heavier,' 'light/lighter.' Measure mass using non-standard units. Recognise different coins and notes. Tell the time to the hour and half hour, using terms such as 'next,' 'before' and 'after,' estimating durations of time and, finally, comparing time.	Represent money using £ and p. Show equal amounts of money and to exchange money. Tell the time to the nearest 5 minutes on analogue clocks. Find the duration of time, the end of a length of time, the beginning of a length of time and, finally, compare lengths of time.
Shape and Space	Name and describe simple 2D and 3D shapes using mathematical language. Recognise, create and describe our own repeating patterns.	Talk about the properties of basic 2D shapes and some solid shapes. Group shapes according to different criteria. Recognise, describe and continue a pattern, as well as generalising patterns. Explore the important elements of position, movement and turns. Describe the position of one object relative to another, using terms such as: 'top,' 'middle' and 'bottom;' 'around,' 'close,' 'near' and 'far;' and 'on top of,' 'in front of' and 'above.' Learn about turns: navigating whole turns, half turns, quarter turns and the notion of clockwise and anticlockwise.	Explore how to draw shapes, make patterns with shapes and turn shapes using familiar language. Identify sides of shapes and their vertices before moving on to lines of symmetry. Recreate shapes using blocks and sorting the basic shapes before we learn to draw shapes using square grids and dot grids. Recognise, describe and group 3-D shapes, forming structures with them and making patterns using 3-D shapes.

Data Handling			Read, interpret, analyse and construct picture graphs.

	Y3	Y4	Y5	Y6
Place Value and number	Learn numbers to 1000 and focus on the value of each digit. Compose and decompose numbers, compare, order and look for patterns.	Embed understanding of number by counting to 10 000 in multiples of 25, 100 and 1000. Compare and order 4 digit numbers and learn to create and interpret number patterns by using our knowledge of place value. Round numbers to the nearest 10, 100 and 1000 and use this knowledge to estimate numbers Write the Roman numerals to 100.	Read, write and compare numbers to 100 0000. Round numbers to the nearest 10, 1000, 10 000 and 100 000. Read and write Roman numerals up to 1000 and writing years in this way.	Round and compare numbers to 10 000 000, and place them in order from smallest to greatest. Add, subtract and use negative numbers in context.
Addition and Subtraction	Use formal methods of addition and subtraction where regrouping is required. Solve problems using addition and subtraction, using the bar model as a visual aid.	Learn to add and subtract with numbers up to 10 000 using mental methods and column methods. Use the methods taught to solve word problems: visualising the problems using the bar model.	Explore addition and subtraction of numbers to 1 000 000 using a range of methods, such as the column method and number bonds to add and subtract numbers. Apply learning to solve multiple step word problems.	Use strategies to solve more complex word problems involving multiple operations. Use high-order reasoning skills to solve problems and create and solve own word problems.

Multiplication and Division	Multiply and divide by 3, 4 and 8. Use this experience of multiplication and division to solve word problems	Multiply and divide by 6, 7, 9, 11 and 12. Begin to understand mathematical vocabulary such as 'quotient' in relation to division and the commutative law in multiplication. We will also solve problems involving multiplication and division. Multiply 3 digit numbers by a 1 digit number. Divide 2-digit numbers using chunking and short division: this includes numbers with remainders	Multiply and divide 3- and 4-digit numbers by single-and double-digit numbers. Find and define multiples, factors and common factors. Begin to work with prime numbers and determine what makes a number prime or composite. Learn about square and cube numbers before moving on to multiplying and dividing by 10, 100 and 1000. Use a variety of methods, including: number bonds, column methods and the grid method.	Create and solve expressions involving brackets, multiplication and division, Multiply and divide 3-and 4-digit by 2 digit numbers using a range of methods including the column multiplication and long division. Use strategies to solve more complex word problems involving multiple operations, including multiplication and division. Deepen understanding of common multiples, common factors and prime numbers.
Fractions, decimals and Percentages	Add and subtract fractions. Explore equivalent fractions and look at simplifying fractions before comparing fractions with different denominators. Find fractions of whole numbers as part of set and looking at sharing 1 and more than 1.	Learn about mixed number fractions and improper fractions. Convert between mixed numbers and improper fractions. Add and subtract fractions and solve addition and subtraction word problems. Count, order and record the decimals in different ways. Understand the equivalence between tenths and hundredths	Add and subtract fractions with different denominators and fractions represented with mixed numbers and improper fractions. Multiply fractions by whole numbers and multiply mixed numbers by whole numbers. Read, write and order decimals to thousandths. Add and subtract decimals. Link hundredths to other equivalent	Simplify and order fractions from the smallest to largest. Add and subtract fractions with different denominators and mixed numbers. Multiply and divide fractions by a whole number. Write fractions as decimals. Mulitiply decimal fractions. Divide decimals by 1 and 2 digit numbers.

		and will be able to compare and order the numbers. Create number sequences using decimals as well as rounding decimals to the nearest whole number. Explore the link between tenths and hundredths and dividing by 10 and 100.	fractions. Understand how other fractions can be shown as 'out of 100' and write this as both a decimal and percentage. Calculate percentages.	We will be exploring how to Calculate percentage of numbers and quantities. Use percentage to compare numbers and amounts.
Measures and Money	Measure length in metres, centimetres and kilometres. Learn to convert different units of measurement as well as compare different lengths. Use scales to measure mass in g and kg. Read scales that have different values for each marking. Measure volume using millilitres and litres. Tell the time to the minute, using analogue and digital time. Compare time in seconds, hours and minutes. Convert units of time and then find a number of days in lengths of time. Embed previous learning on recognising different denominations	Estimate and measure mass, volume and length. Convert units of measure from larger to smaller and vice versa. Measure perimeter using cm and mm. Solve problems involving mass, volume and length. Convert between the 12- hour clock and the 24-hour clock. Convert between units of time, such as minutes and seconds, and hours and minutes. Solve time problems involving conversions and calculating durations of time. Learn how to count and record in pounds and pence.	Convert between different units of length, mass and time. Use negative numbers when reading scales, such as thermometers. Solve problems involving measurements.	Convert units of measure using fractions and decimals.

	(both notes and coins) and the simple addition and subtraction of money.	Make links between tenths and hundredths and decimal notation for money. Compare amounts of money by looking at significant digits and by converting amounts from pounds to pence and vice versa. Round money to the nearest pound and we will understand contexts in which this would be a useful skill to know, like estimating.		
Shape and Space	Explore different types of lines in addition to properties of shapes, both 2- and 3-D. Identify perpendicular and parallel lines, followed by horizontal and vertical lines. Use vocabulary to describe 2-dimensional shapes and learn to draw them before making 3- dimensional shapes using nets and clay. Calculate perimeter by measuring and adding all of the lengths together. Solve problems using perimeter.	Name and compare angles and use this information to classify triangles and quadrilaterals. Explore symmetry and symmetrical figures before applying this knowledge to the completion of symmetrical figures. Draw lines of symmetry on shapes and figures and will combine this knowledge and understanding to sort a variety of 2-D shapes. Understand the concept of area by measuring surface coverage: i.e. counting squares before measuring area by using multiplication. Apply our knowledge of area of figures in different orientations.	Measure angles in degrees using a protractor. Explore the angles that make 180° or straight line and those that make a full turn. Draw lines and angles accurately and use this to create accurate drawings of 2D shapes. Solve problems involving angles. Name regular polygons. Translate and reflect shapes on a grid. Solve problems involving translations and reflections of shapes. Use scale diagrams to find the area and perimeter of figures.	Explore angles and discover rules for opposite angles and adjacent angles. Name the parts of a circle and investigate angles within a circle. Explore the nets of three dimensional shapes and learn to draw them accurately. Calculate the area of rectangles, triangles and parallelograms. Describe positions of shapes on a grid in all four quadrants. Describe translations and reflections in all four quadrants. Use algebraic expressions to describe a position or a movement of a shape.

		Describe the positions of objects and figures on grids using coordinates. Translate shapes using the language of 'left', 'right', 'upwards' and 'downwards' and will use coordinates to describe a figure following a translation.	Calculate area and perimeter of shapes.	
Data Handling and Ratio	Create, read and interpret picture graphs and bar graphs.	Interpret line graphs and use information collated in a table to draw a line graph. Make predictions based on trends identified in data.	Compare line graphs and bar graphs. Read and interpret timetables.	Solve problems using the mean. Read and solve problems involving pie charts and line graphs. We will learn to use the language of and solve problems using ratio.