Beaufront First School Long-Term Plan: Mathematics

Intent	Implementation	Impact
The Mathematics Curriculum at Beaufront meets the requirements of the National Curriculum and follows the White Rose Maths scheme of work, enriched by the NCETM plans and resources for challenge and mastery. The high-quality Mathematics Curriculum provides children with an understanding that Mathematics is everywhere, with a firm foundation for understanding the world, engagement in mathematical reasoning, and a sense of curiosity about Mathematics. The curriculum can be broadly studied across 4 main domains of 1) Number 2) Measurement 3) Geometry 4) Statistics It aims to ensure that all pupils: ● Develop fluency in the fundamentals of Mathematics. ● Develop deep conceptual understanding of Mathematics through pratice and increasingly complex problems to solve. ● Develop excellent reasoning skills following lines of enquiry and using mathematical language to justify or prove arguments. ● Develop excellent problem-solving skills with increasing maturity and accuracy. ● Become confident mathematicians. In addition, as identified in the National Curriculum, Mathematics is an interconnected subject and	All children will engage in daily Maths lessons, which will be supplemented and complemented by STEM weeks and cross-curricular themed weeks. Our inclusive and enriched curriculum enables all children to experience and engage with Mathematics through: ● Carefully planned sequences of lessons including theoretical and practical learning opportunities, designed to develop the knowledge, understanding and skills needed to engage with all domains in the subject. ● Carefully planned, appropriate resources and enriched learning experiences, including weekly 'hands-on', practical lessons to support, consolidate and challenge prior learning, and Forest School. Children will also build skills in relation to: - Listening - Speaking - Problem Solving - Creativity - Planning - Adapting - Leadership - Teamwork	Through a focused, thorough and enriched Science Curriculum children are able to: ● Explore number, measure, shape, space, and statistics. ● Explore and use a range of practical apparatus and resources, ● Recall and use facts and methods to engage with mathematical problems with increasing sophistication. ● Use mathematical language to discuss, reason, justify and prove (verbal and written). ● Use developing mathematical knowledge, understanding and skills across the curriculum. ● Follow lines of enquiry and make connections. ● Know and understand the core principles of mathematics and apply this knowledge and understanding to engage with the world. ● Enjoy and be curious about mathematics and its function, purpose and impact on the wider world.

therefore, the ambitious curriculum at Beaufront aims to ensure that all pupils: ● Make rich connections between different domains of Mathematics. ● Are able to apply their developing mathematical knowledge in Science and other subjects. ● Gain depth of knowledge in each domain and within each programme of study through mastery challenges before progressing to the next programme of study.		
Maths Curriculum Objectives		
EYFS (Nursery & Reception)	**KS1 (Year 1 & 2)**	**KS2 (Year 3 & 4)**
ELGs *Number* ● Have a deep understanding of number to 10, including the composition of each number. ● Subitise (recognise quantities without counting) up to 5. ● Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. *Numerical Patterns* ● Verbally count beyond 20, recognising the pattern of the counting system. ● Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. ● Explore and represent patterns within numbers up to 10, including evens and odds,	**National Curriculum - Year 1** *Number - number and place value* ● Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. ● Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s. ● Given a number, identify 1 more and 1 less. ● Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least ● Read and write numbers from 1 to 20 in numerals and words. *Number - addition and subtraction* ● Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. ● Represent and use number bonds and	**National Curriculum - Year 3** *Number - number and place value* ● Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. ● Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s). ● Compare and order numbers up to 1,000. ● Identify, represent and estimate numbers using different representations. ● Read and write numbers up to 1,000 in numerals and in words. ● Solve number problems and practical problems involving these ideas. *Number - addition and subtraction* ● add and subtract numbers mentally, including: a three-digit number and 1s; a three-digit number and 10s; a three-digit number and 100s. ● Add and subtract numbers with up to 3

double facts and how quantities can be distributed equally.	related subtraction facts within 20 ● Add and subtract one-digit and two-digit numbers to 20, including 0. ● Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems. *Number - multiplication and division* ● Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. *Number - fractions* ● Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity. ● Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity. *Measurement* ● Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] mass/weight [for example, heavy/light, heavier than, lighter than] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later]. ● Measure and begin to record: lengths and heights; mass/weight; capacity and volume; time (hours, minutes, seconds). ● Recognise and know the value of different denominations of coins and notes. ● Sequence events in chronological order using language [for example, before and after, next,	digits, using formal written methods of columnar addition and subtraction. ● Estimate the answer to a calculation and use inverse operations to check answers. ● Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. *Number - multiplication and division* ● Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. ● Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. ● Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. *Number - fractions* ● Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. ● Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. ● Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. ● Recognise and show, using diagrams, equivalent fractions with small denominators.

	first, today, yesterday, tomorrow, morning, afternoon and evening]. ● Recognise and use language relating to dates, including days of the week, weeks, months and years. ● Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. *Geometry - properties of shapes* ● Recognise and name common 2-D and 3-D shapes, including: rectangles, squares, circles, triangles; cuboids, cubes, pyramids and spheres. *Geometry - position and direction* ● Describe position, direction and movement, including whole, half, quarter and three-quarter turns. **National Curriculum - Year 2** *Number - number and place value* ● Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward. ● Recognise the place value of each digit in a two-digit number (10s, 1s). ● Identify, represent and estimate numbers using different representations, including the number line. ● Compare and order numbers from 0 up to 100; use <, > and = signs. ● Read and write numbers to at least 100 in numerals and in words. ● Use place value and number facts to solve problems. *Number - addition and subtraction* ● Solve problems with addition and subtraction, using concrete objects and	● Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]. ● Compare and order unit fractions, and fractions with the same denominators. ● Solve problems that involve all of the above. *Measurement* ● Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). ● Measure the perimeter of simple 2-D shapes. ● Add and subtract amounts of money to give change, using both £ and p in practical contexts. ● Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. ● Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight. ● Know the number of seconds in a minute and the number of days in each month, year and leap year. ● Compare durations of events [for example, to calculate the time taken by particular events or tasks]. *Geometry - properties of shapes* ● Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. ● Recognise angles as a property of shape or a description of a turn.

	pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods. ● Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. ● Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and 1s; a two-digit number and 10s; 2 two-digit numbers; adding 3 one-digit numbers. ● Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot. ● Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. *Number - multiplication and division* ● Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. ● Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. ● Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot. ● Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in	● Identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle. ● Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. *Statistics* ● Interpret and present data using bar charts, pictograms and tables. ● Solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables. **National Curriculum - Year 4** *Number - number and place value* ● Count in multiples of 6, 7, 9, 25 and 1,000. ● Find 1,000 more or less than a given number ● count backwards through 0 to include negative numbers. ● Recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s). ● Order and compare numbers beyond 1,000. ● Identify, represent and estimate numbers using different representations. ● Round any number to the nearest 10, 100 or 1,000. ● Solve number and practical problems that involve all of the above and with increasingly large positive numbers. ● Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value. *Number - addition and subtraction*

	contexts. *Number - fractions* ● Recognise, find, name and write fractions ⅓, ¼, , 2/4, and ¾, of a length, shape, set of objects or quantity. ● Write simple fractions, for example ½ of 6 = 3 and recognise the equivalence of 2/4 and ½. *Measurement* ● 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) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. ● Compare and order lengths, mass, volume/capacity and record the results using >, < and =. ● Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. ● Find different combinations of coins that equal the same amounts of money. ● Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. ● Compare and sequence intervals of time. ● Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. ● Know the number of minutes in an hour and the number of hours in a day. *Geometry - properties of shapes* ● Identify and describe the properties of 2-D shapes, including the number of sides, and	● Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. ● Estimate and use inverse operations to check answers to a calculation. ● Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. *Number - multiplication and division* ● Recall multiplication and division facts for multiplication tables up to 12 × 12. ● Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers. ● Recognise and use factor pairs and commutativity in mental calculations. ● Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. ● Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. *Number - fractions (including decimals)* ● Recognise and show, using diagrams, families of common equivalent fractions. ● Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10. ● Solve problems involving increasingly harder fractions to calculate quantities, and fractions

	line symmetry in a vertical line. ● Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. ● Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]. ● Compare and sort common 2-D and 3-D shapes and everyday objects. *Geometry - position and direction* ● Order and arrange combinations of mathematical objects in patterns and sequences. ● Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). *Statistics* ● Interpret and construct simple pictograms, tally charts, block diagrams and 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.	to divide quantities, including non-unit fractions where the answer is a whole number. ● Add and subtract fractions with the same denominator. ● Recognise and write decimal equivalents of any number of tenths or hundreds. ● Recognise and write decimal equivalents to ¼, ½ , ¾. ● Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. ● Round decimals with 1 decimal place to the nearest whole number. ● Compare numbers with the same number of decimal places up to 2 decimal places. ● Solve simple measure and money problems involving fractions and decimals to 2 decimal places. *Measurement* ● Convert between different units of measure [for example, kilometre to metre; hour to minute]. ● Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. ● Find the area of rectilinear shapes by counting squares. ● Estimate, compare and calculate different measures, including money in pounds and pence. ● Read, write and convert time between analogue and digital 12- and 24-hour clocks. ● Solve problems involving converting from

		hours to minutes, minutes to seconds, years to months, weeks to days. *Geometry - properties of shapes* ● Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. ● Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. ● Identify lines of symmetry in 2-D shapes presented in different orientations. ● Complete a simple symmetric figure with respect to a specific line of symmetry. *Geometry - position and direction* ● Describe positions on a 2-D grid as coordinates in the first quadrant. ● Describe movements between positions as translations of a given unit to the left/right and up/down. ● Plot specified points and draw sides to complete a given polygon. *Statistics* ● Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. ● Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Big Questions		
Why? **What happens if…?** **How do you know?** **What do you notice?**		

What is the importance/ significance of that?

Programme of Study - Overview			
	EYFS	**KS1**	**KS2**
Autumn 1			
Autumn 2			
Spring 1			
Spring 2			
Summer 1			
Summer 2			