St Francis' Catholic Primary School
Maths Progression

Maths Intent	The study of Mathematics develops children's abilities to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics. Children use and apply their knowledge, skills and understanding in a range of different situations. We aim to ignite children's love of Mathematics through activities and learning both indoors and outdoors. Nursery children are given every opportunity to develop their love of Mathematics through immersing themselves in 'Numberland' and they have a range of resources specifically to enhance the teaching and learning of Mathematics. We want all children to have confidence in their Mathematical abilities and develop into enthusiastic and successful problem solvers, ready for the next stages in their school careers and academic stages of development.

EYFS –see Development Matters 2023 for detailed examples of how to support learning in EYFS
<u>Mathematics</u>

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes

0-3 YEARS	3-4 YEARS	RECEPTION
• Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.' • Climb and squeeze themselves into different types of spaces. • Build with a range of resources. • Complete inset puzzles. • Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. • Notice patterns and arrange things in patterns.	• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Experiment with their own symbols and marks as well as numerals. Solve real world mathematical problems with numbers up to 5. Compare quantities using language: 'more than', 'fewer than'. • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • Understand position through words alone – for example, • Make comparisons between objects relating to size, length, weight and capacity. • Select shapes appropriately.	**ELG: Number** Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number; 14 - 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. **ELG: Numerical Patterns** Children at the expected level of development will: - 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, double facts and how quantities can be distributed equally.

COUNTING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	Consolidate count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	count backwards in 10's 100's and 1000's from different starting points begin to introduce counting through zero to include negative numbers *count up and down in tenths (taken from fraction)*	consolidate count backwards through zero to include negative numbers (counting in various equal steps from a variety of starting points – ve and +ve) *count up and down in tenths and hundredths (taken from fractions)*	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero *count up and down in tenths and hundredths (taken from fractions)*	use negative numbers in context, and calculate intervals across zero *count up and down in tenths and hundredths (taken from fractions)*
count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	count from 0 in multiples of 4, 6,8, 50 and 100;	count in multiples of 7, 9, 25 and 1000	count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	
given a number, identify one more and one less	given a number, identify ten more and ten less	find 10 or 100 more or less than a given number	find 1000 more or less than a given number		

COMPARING NUMBERS					
use the language of: equal to, more than, less than (fewer), most, least compare and order numbers from 0 up to 100; show<, > and = signs	compare and order numbers from 0 up to 100; use <, > and = signs	compare and order numbers up to 1000 use <, > and = signs	order and compare numbers beyond 1000 use <, > and = signs *compare numbers with the same number of decimal places up to two decimal places* (copied from Fractions)	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit use <, > and = signs (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000000 and determine the value of each digit use <, > and = signs (appears also in Reading and Writing Numbers)

IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS					
identify and represent numbers using objects and pictorial representations including the number line	identify, represent and estimate numbers using different representations, including the number line	identify, represent and estimate numbers using different representations including the number line where appropriate	identify, represent and estimate numbers using different representations including the number line where appropriate	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations

READING AND WRITING NUMBERS (including Roman Numerals)					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read and write numbers from 1 to 20 in numerals and words.	read and write numbers to at least 100 in numerals and in words	read and write numbers up to 1000 in numerals and in words	read and write numbers up to 100 000, in numerals and in words	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
		tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks *(copied from Measurement)*		Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. When are we doing Romans read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	

UNDERSTANDING PLACE VALUE					
verbally use the terms of the place value in a two-digit number (tens, ones/units)	recognise the place value of each digit in a two-digit number (tens, ones)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	recognise the place value of each digit in a four, five & six-digit number (hundred thousands, ten thousands, thousands, hundreds, tens, and ones) *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 units, tenths and hundredths* *(copied from Fractions)*	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* *(copied from Fractions)*	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers) *identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places* *(copied from Fractions)*

			ROUNDING		
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	round any number to the nearest 10	round any number to the nearest 10 and 100	round any number to the nearest 10, 100 or 1 000	round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000	round any whole number to a required degree of accuracy
			round decimals with one decimal place to the nearest whole number (copied from Fractions)	*round decimals with two decimal places to the nearest whole number and to one decimal place* (copied from Fractions)	*solve problems which require answers to be rounded to specified degrees of accuracy* (copied from Fractions)
			PROBLEM SOLVING		
	use place value and number facts to solve problems	solve number problems and practical problems involving Number and Place Value objectives.	solve number and practical problems that involve all of the above and with increasingly large positive numbers	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above