St Cecilia's Infant & Nursery School

Progression - Maths

Intent: Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

	Number				Measurement	Geometry		Statistics
Year	*Number and Place Value*	*Addition and subtraction*	*Multiplication and division*	*Fractions*	*Measurement*	*Properties of space*	*Position and direction*	*Statistics*
EYFS	**Early Learning Goal** Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.	**Early Learning Goal** Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.	**Early Learning Goal** They solve problems, including doubling, halving and sharing.	**Early Learning Goal** They solve problems, including doubling, halving and sharing	**Early Learning Goal** Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.			
Year 1	Count to, across and within 100. Count forwards and backwards beginning with 0 and 1 from, or any given number. Count read and write to 100 Count in twos, fives and tens.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Represent and use number bonds and related subtraction facts within 20 Add and subtract one-digit and two-digit numbers to 20 (9 + 9, 18 - 9), including zero Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.	Solve simple one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four equal	Compare, describe and solve practical problems for: - lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) mass or weight (e.g. heavy/light, heavier than, lighter than) capacity/volume (full/empty, more than, less than, quarter) time (quicker, slower, earlier, later) Measure and begin to record the following: -lengths and heights -mass/weight -capacity and volume time (hours, minutes, seconds) Recognise and know the value of different denominations of coins and notes 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.	Recognise and name common 2-D and 3-D shapes, including: 2-D shapes (e.g. rectangles (including squares), circles and triangles) 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres).	- Arrange combinations of objects and shapes in patterns - describe position, directions and movements, including half, quarter and three-quarter turns.	

					Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening			

Year	Number and Place Value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Properties of shape	Position and direction	Statistics
Year 2	Count in steps of 2, 3, and 5 from 0, and count in tens from any number, forward or backward. Recognise the place value of each digit in a two-digit number (tens, ones). 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 word. Use place value and number facts to solve problems.	Solve simple one-step problems with addition and subtraction: using concrete objects and 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 ones a two-digit number and tens two two-digit numbers adding three one-digit numbers Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.	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. Recognise and use the inverse relationship between multiplication and division in calculations. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve one-step problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. Write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of two quarters and one half.	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 = read relevant scales to the nearest numbered unit. Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value and match different combinations of coins to equal the same amounts of money; add and subtract money of the same unit, including giving change. Solve simple problems in a practical context involving addition and subtraction of money 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.	Identify and describe the properties of 2-D shapes, including the number of sides and 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.	Order and arrange combinations of mathematical objects in patterns. Use mathematical vocabulary to describe position, direction and movement, including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line.	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 compare categorical data.

			quantities, including non-unit fractions where the answer is a whole number. Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths. Add and subtract fractions with the same denominator.	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 fractions and decimals to two decimal places.				

			Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	three decimal places. Solve problems involving number up to three decimal places. Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction. Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.				