Our Lady's Catholic Primary School

'Living and Learning in Faith'

Maths Progression of Skills and Knowledge EYFS to KS2

	Number	Addition and Subtraction	multiplication and division	Fractions, percentages and decimals	Shape and Space	Statistics	Measure
Reception	Number: Develop a deep understanding of numbers to 10 Know 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) Have quick recall of some number bonds to 10, including double facts.	Numerical Pattern: Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, Recognising greater than, less than or the same as in quantities; Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.		Shape, space, measure: Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantitates and objects and shapes and use mathematical language to describe them. Taken from Development Matters Guidance (Non Statutory)			

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Year 1							
	Numbers: 1-10, counting, writing, comparing, ordering Numbers within 20 counting, writing, comparing, ordering Numbers within 50 counting, writing, comparing, ordering, counting in 2s and 5s. Numbers to 100 counting, writing, comparing, ordering, counting in 10s and 1s	Addition and Subtraction, number bonds, counting on and back within 10. Facts from number sentences Addition and Subtraction, number bonds, counting on and back within 10. Addition and subtraction within 20- counting on back, making 10s and subtracting 1s + - word problems, pictorial rep More than, fewer/less than	Multiplication: count in 2s, 5s, 10s. Recognise multiplication as equal groups, rows and doubles. Make arrays and other pictorial representations Division - grouping and sharing equally. . Multiplication and division word problems.	½ and 1/4 , sharing and grouping.	Geometry: Properties of Shapes: recognising 2D 3D shapes. Grouping shapes and making patterns. Position & Direction, language including left and right and movement for making turns.		Money – recognising coins and notes. Time – tell to hr and ½ hr, lang. of next, before, after. Length and Height – compare, measure using non-standard units and rulers. Weight and Volume: comparing and measure with non-standard units.

Year 2						
Numbers to 100, number bonds, compare and order numbers 0-100. Use < > = signs and find patterns. Recognise the place value of each digit in a two digit number.	+ / simple calc. and + / with renaming. Recall and use fluently facts to 20 and derive and use related facts to 100. Show that addition can be done in any order and subtraction cannot. Recognise and use inverse relationship +/ - Word problems + -, find difference and use the bar model. Multistep. Add two, two digit numbers with / without crossing the tens. Subtract two, two digit numbers with / without crossing the tens.	Understand X as equal groups in a variety of pictorial representations. X 2, 5 & 10 be able to recall. Equal groups and word problems Divide by 2, 5 and 10. Understand the difference between grouping and sharing, word problems, odd/even numbers.	Finding equal parts of a set, ¼, ½, 1/3. Compare order and count in.	Properties of 2D identifying sides, vertices, symmetry Properties of 3D shapes recognising faces, vertices and edges. Position, moving and turning. Making patterns with shapes.	Read and interpret pictographs and tally charts. Use block graphs.	Money- writing, comparing counting amounts, different representations, exchange and word problems Length: measure in cm and m, compare and word problems using the 4 operations. Time- tell and write time to 5 minutes. Sequence, compare and draw clock hands. Find duration, start and end times. Mass: measure in kg and g, compare. Capacity: Volume- compare and measure in litre and millilitres.

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						Word problems.
						Temp: read in Celsius and estimate

Year 3						
Compare, order, read and write numbers to 1000. Count in 50s, 100s, 4s, 8s. Compare and order	Add and subtract using simple facts, simple addition and subtraction. Addition and subtraction with renaming. Solve number problems and practical problems using these ideas.	Recall and use multiplication and division facts for the 3, 4 and 8. Word problems, multiplying by multiples of 10 by a one digit number. Multiply and divide using regrouping. Word problems. Write and calculate mathematical statements for multiplication and division including 2 digit and 1 digit and using mental and formal written methods. Recall multiplication and division facts for the 3, 4 and 8.	Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions as a discrete set of objects. Count up and down in tenths. Recognise that tenths arise from dividing an object into ten equal; parts and in dividing one digit numbers or quantities by 10. Recognise and show with diagrams equivalent	Making angles and comparing angles to a right angle. Making turns. Lines perpendicular, horizontal, vertical lines in shapes and nets of 3D shapes. Draw 2D and 3D shapes using modelling material, recognise 3D shapes in different orientation.	Draw picture graphs, read and draw bar graphs, solve one and two step questions.	Length: Measure, compare, add and subtract: lengths (m/cm/mm); Convert between km, m, cm. Solve problems and measure perimeters of 2D shapes. Find multiple ways of showing amounts of money. Add and subtract amounts of money to give change, using both £ and p in practical contexts. Tell the time on analogue and digital. Measure time in hours, seconds and minutes. Convert between hours, minutes and secs. Use 24 hour clock

		Solve problems including missing number, multiplication and division and scaling problems. Write and calculate mathematical statements for multiplication and division including 2 digit and 1 digit and using mental and formal written methods.	fractions with small denominators. + - fractions with same denominator. Compare and order fractions with the same denominators. Solve problems.			to tell the time. Consolidate and apply a variety of vocabulary to tell the time including days, months, and years. Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml). Solve problems using measures. Continue to measure using the appropriate tools and units. Compare and use mixed units and simple equivalents of mixed units.

Year 4	With numbers up to 10,000, count compare, order and round. Count in multiples of 6, 7, 9. 25 and 1000. Count backwards through zero to include negative numbers. Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones) Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero	Add and Subtract with renaming, mental strategies, difference and multi-step word problems.	Recall and use multiplication and division facts for multiplication tables up to 12 x 12. Multiply and divide mentally. 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. Divide 2 and 3 digit numbers with remainders.	Recognise and show families of common equivalent fractions. Count up and down in hundredths. Solve problems involving increasingly harder fractions to calculate quantities. Add and subtract fractions with the same denominator. Count up and down in hundredths. Recognise and show families of common equivalent fractions. Simplify mixed number fractions and	Angles Identify acute and obtuse angles, compare and order angles. Shape and symmetry: classify triangles and quadrilaterals, identify symmetrical figures, draw lines of symmetry, complete and make symmetrical figures and sort shapes. Position and Direction Describe points on a 2D grid as coordinates in the first quadrant. Describe translations. Plot specified points and draw polygons.	Interpret and present discrete and continuous data using appropriate graphical methods. Solve problems using information presented in bar charts, pictograms, tables and other graphs.	Area: Find the area of rectilinear shapes by counting squares and half squares. Measure area of shapes in different orientations. Perimeter and Length - Measure and calculate the perimeter of a rectilinear figure in cm and m. Convert between different units of measure Convert between different units of measure. Measure perimeter in cm and mm. Money Solve simple money and measure problems. Estimate, compare and calculate different measures including money.

			improper fractions. Add and subtract fractions with the same denominator. Solve problems involving increasingly harder fractions to calculate quantities. Decimals Recognise and write decimal equivalents of any number of tenths or hundredths including fractions. Round decimals with one decimal place to the nearest whole number. Compare		Time Convert between different units of measure. Read, write & convert time between analogue and digital, 12 and 24 hour clocks. Solve problems involving converting a variety of time measures.

			numbers with the same number of decimal places up to two decimal places. Divide whole numbers by ten and whole numbers by 100.			

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Year 5						
Numbers to 1,000,000. Read, write, order and compare. Negative numbers, rounding. Solve number problems. Roman numerals to 1000	Mental and formal methods. Rounding to check. Multistep word problems.	Mental strategies, x / whole numbers by 10, 100, 1000. Identify multiples, factors, square numbers and cube numbers, prime numbers, prime factors, composite numbers. Recall prime numbers to 19. Word problems. Use the bar model to represent the information. X 4 digits by 1 digit, 3 digit by 2 digit, 4 digit by 2 digit, divide 4 digits by 1 digit including with remainders. Word problems.	Fractions: Compare and order fractions where denominators need to be the same number. Mixed number and improper fractions conversion. + - fractions with same denominator and denominator that are multiples of each other. X proper fractions and mixed numbers by a whole number. Write decimal numbers as fraction. Use the bar model as a key strategy. X	Geometry: know angles are measured in degrees. Estimate, compare and identify types of angles. Know how many degrees in a full turn, straight line, rightangle. Draw and measure given angles. Position and direction. Pupils name and plot points, describe translations and movements and describe successive reflections. Shape: Investigate angles of squares, rectangles and quadrilaterals. Properties of regular and irregular polygons. 3D nets. Solve comparison, sum and difference problems using information presented in a line graph. Solve	Solve comparison, sum and difference problems using information presented in a line graph. Solve problems involving timetables	Measure: Perimeter of composite shapes. Calculate and compare area of rectangles. Estimate area of irregular shapes. Convert units of length, mass and time and read temperature. Equivalences of metric and imperial units. Solve problems converting between units of length. Understand and find the volume of solids, convert units of volume and solve word problems.

				proper fractions and mixed numbers by a whole number. Write decimal numbers as fraction. Read, write and compare numbers to 3 dp. Recognise the relationship between the fractions 10th and 100th and decimal equivalent. + /- decimals. Round decimals to nearest whole number. Add and subtract decimals. X and divide decimals by 10, 100, 1000. Percentages X / whole numbers	problems involving timetables.		

			by 10, 100, 1000. Compare quantities presented as fractions, decimals and percentages. Recognise %, understand meaning. Solve problems involving %, fraction, decimal equivalences.			

Year 6	Place Value: Numbers to 10,000,000. Round, order, compare. Negative numbers and calculate intervals across 0.	Solve addition and subtraction multi-step problems in context and decided which is the best method to use. All 4 operations and order of operations.	Multiply and divide 4 digit number by 2 digit number. Solve multiplication and division multistep problems in context and decided which is the best method to use. Interpreting remainders. Identify and know factors, multiples and prime numbers. Algebra: use formulae. Number sequences and express missing numbers in algebraic form. Work out equations with unknowns.	Fractions: Simplify fractions and express fractions with the same denominator. Add and subtract fractions with different denominators and mixed numbers. + - fractions with different denominators and mixed numbers. X simple pairs of proper fractions. / proper fractions by whole number. Decimals: place value of each digit in numbers too 3dp. X / numbers by 10,	Properties of Shapes: draw 2d shapes. Compare and classify shapes. Find unknown angles. Recognise angles where they meet, on a straight line or opposite and find the missing angle. Position and Direction: identify and plot coordinates in all 4 quadrants. Translate shapes and reflect in axes.	Statistics: name parts of a circle. Interpret and construct pie charts. Calculate the mean as an average.	Measures: Calc and convert up to 3dp. standard units of measure, from m to km, from g to kg and ml to l. Time mins to hours and 24 hour clock. Calculation: solve a range of word problems. Percentages: Calculate % and compare. Recall FDP equivalence. Ratio: use x / facts to scale up and down. Problems involving unequal sharing and grouping using knowledge of fractions.

			100, 1000. X 1 digit number with up to 2 dp by a whole number. Use / in cases where answer has 2 dp. Ratio: use x / facts to scale up and down. Problems involving unequal sharing and grouping using knowledge of fractions.			