



MACAULAY CE SCHOOL
MATHS OVERVIEW

	AUTUMN	SPRING	SUMMER
Nursery	<ul style="list-style-type: none">Children will explore a range of mathematical concepts and resources, involving Number and Pattern relating to Autumn. They will observe and duplicate patterns, such as using leaf printing and also generate their own, using a range of natural materials, including leaves, conkers, cones and harvest vegetables or seeds. They will have many opportunities to count, identify numerals and apply their knowledge in everyday situations and will be singing number songs to support number awareness.Children will be encouraged to see maths as an everyday part of their lives and become aware of number and shape in their environment.	<ul style="list-style-type: none">Focused around the theme of winter children will recognise numerals, sort and represent numbers using fingers, marks on paper or image. They will realise that any object can be counted, and recite numbers to and beyond ten. Through songs and number rhymes children will reinforce their understanding.Children will explore patterns and shapes in the environment and show an interest in shapes by making arrangements of objects.Children will be encouraged to see maths as an everyday part of their lives and become aware of number and shape in their environment.	<ul style="list-style-type: none">Children will participate in counting, sorting, ordering, matching, sequencing and comparing through cooking, gardening and role-play. They will also further their recognition of numerals, and their ability to match numeral to quantity, when completing puzzles, joining in number games and songs and rhymes.
Reception	<ul style="list-style-type: none">Number: Children will begin to recognise the numerals 1-3, count up to 3 objects by saying one number for each item and order numbers to 5. They will focus on 1, 2 and 3, representing and comparing these numbers in a variety of contexts. To support this, we will be singing number songs and counting as a class. We will also be playing games and completing puzzles with the children in order to give numbers meaning in their everyday environment and to practise problem solving. They will work on one more and one less with numbers to 5.Numerical Patterns: Through a range of activities, children will begin to use names for	<ul style="list-style-type: none">Number: Children will be learning how to represent numbers up to 10 in a variety of ways, including with a 5 frame and 10 frame, including the absence of something as 0. They will build their understanding of number composition, using smaller numbers to make a larger number. Learning will be done in a range of ways, including teacher led sessions, small group work and challenges. The children will be encouraged to follow this through into their play, both inside and outside. In addition, children will be learning the language of number, such as 'more than', 'less than' and 'equal to' with numbers up to 10. Children will explore number bonds to 10 and make pairs	<ul style="list-style-type: none">Number: Children will consolidate keys skills of subitising, counting forwards and backwards, number composition, sorting and matching and comparing and ordering. They will learn to count to 20 and represent numbers beyond 10 (often using the language of ten and ...). They will begin to solve problems involving adding more and taking away. They will work on problems involving doubling (learning doubles facts), sharing and grouping, as well as identifying even and odd numbers with groups of objects.Numerical Patterns: The children will use everyday language to talk about size, weight, capacity, position, distance, time and money to

	<p>2-D shapes, focusing on circles, triangles and 4-sided shapes. The children will have access to shapes during 'explore and learn' and will be able to use these to complete challenges and puzzles and explore pattern. Children will also begin to explore capacity and learn to apply some of the language in this to describe objects.</p>	<p>with objects and number representations.</p> <ul style="list-style-type: none"> ● Numerical Patterns: Children will 3D (solid) shapes and ways to describe them. They will also begin to use everyday language related to length, height, mass, capacity and time, including: days of the week, yesterday, today and tomorrow. 	<p>compare quantities and objects and to solve problems.</p>
Year 1	<ul style="list-style-type: none"> ● Place Value: numbers to 10 and then 20, counting forwards and backwards, finding more/less, writing numbers in numerals and words, comparing numbers and groups of objects. ● Addition and subtraction: using numbers within 10 related number bonds, solving one step and missing number problems using concrete manipulatives and pictorial representations. ● Geometry (shape): recognising and naming common 2D and 3D shapes. 	<ul style="list-style-type: none"> ● Place Value: numbers to 50, tens and ones, represent numbers to 50, one more or less, comparing and ordering numbers within 50, count in 2s and 5s. ● Addition and subtraction: add by counting, find and make number bonds, adding using number bonds, subtraction including crossing 10s, related facts, comparing number sentences. ● Length and height: compare lengths and heights, measure length, solve problems by adding and subtracting length. ● Mass and Volume: weight and mass, measuring mass, comparing mass, capacity and volume, measuring and comparing capacity. 	<ul style="list-style-type: none"> ● Place Value: Count to and across 100, count, read and write numbers to 100 in numerals and words, partition and compare numbers, order numbers, find one more and one less. ● Multiplication and division: count in 2s, 5s, and 10s, make equal groups and arrays (including sharing and grouping), add equal groups, make doubles. ● Fractions: make a half, whole and quarter, find half of a quantity, find a quarter of a quantity. ● Geometry (position and direction): describe turns and position. ● Measurement (money): Recognise and know the value of different coins, count in coins. ● Measurement(time): identify before and after events in a day, time to the hour and half hour, writing and comparing time.
Year 2	<ul style="list-style-type: none"> ● Place Value: reading, writing and comparing numbers to 100, counting in steps of 2s, 3s, 5s and 10s, read, partition and represent tens and ones, compare and order objects and numbers, estimate numbers on a number line, flexibly partition numbers. ● Addition and subtraction: number bonds to 10 and 100, using number bonds to add and subtract, add and subtract 1s and 10s, add three 1-digit numbers, add and subtract across 	<ul style="list-style-type: none"> ● Measurement (Money): recognising and using symbols of pounds and pence, combining amounts to make a given value, counting money with notes and coins, comparing money, finding the total, the difference and change, solving two step problems involving money ● Multiplication and division: 2, 5 and 10 times table, make equal groups by sharing and grouping, dividing by 2, 5 and 10. 	<ul style="list-style-type: none"> ● Fractions: using halves, thirds and quarters, recognising, naming and writing fractions of a length, shape, set of objects or quantity, writing simple fractions and recognising equivalent fractions of halves and quarters, finding unit and non-unit fractions of amounts, ● Measurement (Time): Tell and write the time to five minutes, including quarter past/to the hour, know the number of minutes in an hour

	<p>a 10, add and subtract two 2-digit numbers across a 10.</p> <ul style="list-style-type: none"> ● Geometry (shape): Recognise 2-D and 3-D shapes, count vertices and sides on 2-D shapes, count faces and edges on 3-D shapes, short shapes and make patterns, find and use lines of symmetry on 2-D shapes. 	<ul style="list-style-type: none"> ● Length and height: measuring length in cm and m, comparing and ordering lengths, using the four operations and problem solving with lengths. ● Mass, capacity and temperature: Compare and measure mass (in grams and kilograms) and capacity (litres and millilitres), measure temperature using thermometers. 	<p>& the number of hours in a day, compare and find durations of time.</p> <ul style="list-style-type: none"> ● Statistics: making tally charts, drawing and interpreting pictograms, block diagrams. ● Position and direction: describe position, movement and turns, making patterns with shapes, problem solving with position.
Year 3	<ul style="list-style-type: none"> ● Place Value: numbers to a 1000, 1/10/100 more or less, number lines, ordering numbers, counting in 50s, represent and partition numbers, compare and order numbers. ● Addition and Subtraction: adding and subtracting 1s, 10 and 100s, adding and subtracting 1, 2, and 3 digit numbers building to crossing 10s and 100s and exchange, inverse operations and estimation. ● Multiplication and Division: multiplication as equal groups, multiples of 2, 5 and 10, multiplying and dividing by 3, 4 and 8, division as sharing and grouping, 	<ul style="list-style-type: none"> ● Multiplication and Division: 3, 4 and 8 times tables revision, solving problems including missing numbers, write and calculate statements for multiplication and division, including 2-digit numbers times 1-digit numbers, using mental methods and progressing to formal written methods, divide 2-digits by 1-digit including remainders ● Measurement (length and perimeter): lengths in mm, cm and m, compare, add and subtract lengths, measure and calculate perimeter. ● Fractions: unit and non-unit fractions with small denominators, counting up and down in tenths, recognising that tenths arrive from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. ● Mass and capacity: measure and compare mass and capacity using metric units of measure. 	<ul style="list-style-type: none"> ● Fractions: equivalent fractions, comparing, ordering, adding and subtracting fractions with the same denominator. ● Money: count money in pounds and pence, convert between pounds and pence, add and subtract money. ● Time: months, years, hours, time to five minutes and a minute, am and pm, 24-hour clock, finding and comparing durations, start and end times, measuring in seconds, problem solving with time. ● Properties of Shape: turns, angles, right angles, comparing and drawing angles, perpendicular, parallel, recognise and describe 2-D and 3-D shapes, making 3-D shapes ● Statistics: make tally charts, draw and interpret pictograms, draw and interpret bar charts, read tables.
Year 4	<ul style="list-style-type: none"> ● Place Value: Roman numerals, rounding to the nearest 10/100/1000, partitioning and flexible partitioning, the number line to 10,000, comparing and ordering numbers ● Addition and Subtraction: 1s, 10s, 100s, 1000s, subtracting 2 and 4 digit numbers, estimation ● Area: what is area, counting squares, making shapes, comparing area 	<ul style="list-style-type: none"> ● Fractions: the components of fractions, equivalent fractions, fractions greater than 1, counting, adding and subtracting fractions, fractions of a quantity, problem solving ● Decimals: tenths and hundredths as decimals, tenths and hundredths on a place value grid and number line, dividing 1 or 2 digits by 100 ● Length and Perimeter: kilometres, perimeter on a grid, in rectangles and non rectilinear 	<ul style="list-style-type: none"> ● Decimals: making a whole, writing, comparing, ordering and rounding, halves and quarters ● Money: pounds and pence, ordering, estimating, four operations ● Time: hours, minutes, seconds, years, months, days, analogue to digital: 12 and 24 hours ● Statistics: interpreting charts, comparison, sum and difference, line graphs ● Shape: identifying, comparing and ordering

	<ul style="list-style-type: none"> ● Multiplication and Division: by 0,1 3, 6, 7, 9,11 and 12 multiplication facts multiply 3 numbers, 	<p>shapes</p> <ul style="list-style-type: none"> ● Multiplication and Division: 11, 12 x tables, factor pairs, efficient multiplication, multiply and divide 2 and 3 digits by 1 digit 	<p>angles, triangles, quadrilaterals, symmetry</p> <ul style="list-style-type: none"> ● Geometry: Position and Direction: describe positions in the first quadrant
Year 5	<ul style="list-style-type: none"> ● Place Value: numbers to ten/hundred thousand and a million, comparing and ordering numbers to a million, Roman numerals to 1000, ● Addition and Subtraction: adding and subtracting numbers up to 4 digits using the column method, rounding to estimate and approximate, inverse operations and multi-step problems ● Multiplication and Division: multiples, factors, square numbers, cube numbers, prime numbers, multiplying and dividing by 10/100/1000 and multiples of these ● Fractions: equivalence, improper to mixed number, number sequences, comparing and ordering fractions, adding and subtracting fractions, adding and subtracting mixed numbers 	<ul style="list-style-type: none"> ● Multiplication and Division: multiply and divide 4 digits by 1, multiply 2 digits by 2, multiply 3 and 4 digits by 2 digits ● Fractions: equivalence, improper to mixed number, number sequences, comparing and ordering fractions, adding and subtracting fractions, adding and subtracting mixed numbers ● Decimals and Percentages: up to 2 decimal places, decimals as fractions, thousandths, rounding, ordering and comparing, percentages as fractions and decimals and finding equivalence across these three groups ● Area and Perimeter: Measure and calculate perimeter, area of rectangles, compound shapes and irregular shapes ● Statistics: read, draw and interpret line graphs, read and interpret tables, two way tables, timetables 	<ul style="list-style-type: none"> ● Shape: measuring angles in degrees, using a protractor, drawing angles accurately, calculating angles on a straight line and around a point, calculating lengths and angles in shapes, regular and irregular polygons, reasoning about 3-D shapes ● Position & Direction: 1st quadrant, reflection and translation with coordinates ● Decimals: adding and subtracting decimals within one, complements, crossing the whole, adding and subtracting (including with differing numbers of decimal places), decimal sequences, multiplying by 10, 100 and 1000 ● Number: Negative Numbers Adding and subtracting numbers crossing 0 ● Converting units: kilograms, kilometres, milligrams, millimetres, metric and imperial units, units of time, timetables ● Measurement (Volume): comparing, estimating, capacity
Year 6	<ul style="list-style-type: none"> ● Place Value: numbers to 10 million, comparing, ordering and rounding any number, negative numbers ● Four Operations: multiplying 4 digit numbers by 2 digit numbers, short division, long division, common factors and multiples, primes to 100, squares and cubes, order of operations, reasoning using known facts, solving worded problems and investigations ● Fractions: simplifying fractions, comparing and ordering, adding and subtracting fractions, multiplying and dividing fractions, 	<ul style="list-style-type: none"> ● Ratio: Calculating ratio Using scale factors Calculating scale factors Ratio and proportion problems ● Algebra: finding rules, forming expression, substitution, formulae, forming equations, solving 1 and 2 step equations, pairs of values, enumerate possibilities ● Decimals: up to 3 places, multiplying and dividing by 10, 100, & 1000, multiplying and dividing decimals by integers, division to solve problems, decimals to fractions and vice versa ● Fractions/Decimals/Percentages: fractions to 	<ul style="list-style-type: none"> ● Position and Direction: four quadrants, translation and reflection ● Properties of Shape: measuring angles, protractors, calculating angles, vertically opposite angles, angles in a range of triangles, missing angles, angles in special quadrilaterals, and regular polygons, accurate drawing of shapes, 3-D nets

	<p>finding fractions of amounts and finding the whole from fractions</p> <ul style="list-style-type: none"> ● Measurement: metric measure—converting and calculating, miles and kilometres, imperial measures 	<p>percentages, ordering and equivalence of fractions, decimals and percentages, percentages of amounts, missing values in percentages</p> <ul style="list-style-type: none"> ● Perimeter, area & volume: same area different shapes, triangles, parallelograms, counting volume, cuboid, volume ● Statistics: reading, interpreting and drawing line graphs, solving problems, circles, reading, interpreting and drawing pie charts, pie charts with percentages, the mean 	
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