Maulden Lower School Maths Curriculum Map
Knowledge, skills and understanding - progression across the school

1. Key Skills

	Key Skills EYFS ELG	Key Skills Year 1	Key Skills Year 2	Key Skills Year 3	Key Skills Year 4	Key Skills Year 5 Alameda Middle
Number and Place Value	Number ELG Children at the expected level of development will: 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 ELG 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.	Pupils should be taught to: 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 twos, fives and tens given a number, identify one more and one 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.	Pupils should be taught to: count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and 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 words use place value and number facts to solve problems.	Pupils should be taught to: 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 three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words solve number problems and practical problems involving these ideas.	Pupils should be taught to: count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number 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) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1000 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 zero and place value.	Pupils should be taught to: read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 solve number problems and practical problems that involve all of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

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Number –Addition and Subtraction	Number ELG Children at the expected level of development will: 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.	Pupils should be taught to: 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, including zero solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.	Pupils should be taught to: solve 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 solve missing number problems.	Pupils should be taught to: add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds add and subtract numbers with up to three 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.	Pupils should be taught to: 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.	Pupils should be taught to: add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) add and subtract numbers mentally with increasingly large numbers use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

	Key Skills EYFS ELG	Key Skills Year 1	Key Skills Year 2	Key Skills Year 3	Key Skills Year 4	Key Skills Year 5 Alameda Middle
Number –Multiplication and Division		Pupils should be taught to: 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.	Pupils should be taught to: 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 two numbers can be done in any order (commutative) and division of one 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 contexts.	Pupils should be taught to: 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.	Pupils should be taught to: 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 three 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 one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	Pupils should be taught to: identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (non prime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers multiply and divide numbers mentally drawing upon known facts divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Mathematics – key stages 1 and 2 33 Statutory requirements recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 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.

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Number – Fractions		Pupils should be taught to: 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 parts of an object, shape or quantity.	Pupils should be taught to: recognise, find, name and write fractions 1/3, ¼, 2/4, ¾ of a length, shape, set of objects or quantity write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2	Pupils should be taught to: 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 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.	Pupils should be taught to: 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 one hundred and dividing tenths by ten. solve problems involving increasingly harder fractions to calculate quantities, and fractions 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 hundredths recognise and write decimal equivalents to 1/4 , 1/2 , 3/4 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 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.	Pupils should be taught to: compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 5= 6/5 = 1 1/5] add and subtract fractions with the same denominator and denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams read and write decimal numbers as fractions [for example, 0.71 = 71/100] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents round decimals with two decimal places to the nearest whole number and to one decimal place read, write, order and compare numbers with up to 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 100, and as a decimal solve problems which require knowing percentage and decimal equivalents of 2 1 , 4 1 , 5 1 , 5 2 , 5 4 and those fractions with a denominator of a multiple of 10 or 25.

	Key Skills EYFS ELG	Key Skills Year 1	Key Skills Year 2	Key Skills Year 3	Key Skills Year 4	Key Skills Year 5 Alameda Middle
Measurement		Pupils should be taught to: 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 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 sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Pupils should be taught to: 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	Pupils should be taught to: 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, a.m./p.m., 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)	Pupils should be taught to: 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.	Pupils should be taught to: convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] solve problems involving converting between units of time use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

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		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.	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 Shape		Pupils should be taught to: recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	Pupils should be taught to: identify and describe the properties of 2-D shapes, including the number of sides and 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.	Pupils should be taught to: 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 identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four 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.	Pupils should be taught to: 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 two 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.	Pupils should be taught to: identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (o) identify:X angles at a point and one whole turn (total 360o) angles at a point on a straight line and 2 1 a turn (total 180o) other multiples of 90o use the properties of rectangles to deduce related facts and find missing lengths and Angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

	Key Skills EYFS ELG	Key Skills Year 1	Key Skills Year 2	Key Skills Year 3	Key Skills Year 4	Key Skills Year 5 Alameda Middle
Geometry –Position and Direction		Pupils should be taught to: Describe position, direction and movement, including whole, half, quarter and three quarter turns.	Pupils should be taught to: 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).		Pupils should be taught to: 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.	Pupils should be taught to: identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.
Statistics			Pupils should be taught to: 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 comparing categorical data.	Pupils should be taught to: 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.	Pupils should be taught to: 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.	Pupils should be taught to: solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables.

2. Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Pre-School	Comparison 1 More than, fewer than, same Shape Space and Measure 1 Explore and build with shapes and objects Pattern 1 Explore repeats Counting 1 Hear and say number names	Counting 2 Begin to order number names Subitising 1 I see 1, 2, 3 Pattern 2 Join in with repeats Shape Space and Measure 2 Explore position and space	Subitising 2 Show me 1,2,3 Counting 3 Move and label 1,2,3 Shape, Space and Measure 3 Explore position and routes Pattern 3 Explore patterns	Counting 4 Take and give 1,2,3 Shape, Space and Measure 4 Match, talk, push and pull Subitising 3 Talk about dots Composition 2 Compare and sort collections	Pattern 4 Lead on own repeats Shape, Space and Measure 5 Start to puzzle Pattern 5 Making patterns together Subitising 4 Make games and actions	Counting 5 Show me 5 Pattern 6 My own pattern Counting 6 Stop at 1,2,3,4,5 Comparison 3 Match, sort, compare
Reception	Baseline Assessments Phase: Getting to know you: settling in, introducing areas of the provision. Key times of the day, class routines, positional language. Match, Sort Compare Match objects Match pictures and objects Identify a set Sort objects to a type Explore sorting techniques Create sorting rules Compare amounts Talk About Measure and Patterns Comparing size, mass and capacity. Exploring pattern. Copy and continue pattern. Create Simple patterns.	Phase: It's Me 1,2,3 Representing, counting, composition of 1,2 and 3 Subitise 1 more, 1 less Circles and Triangles Identify, name and compare circles and triangles Shapes in the environment Describe position 1,2,3,4,5 Find, subitise, represent 4 and 5 1 more, 1 less, Composition of 4 and 5 Composition of 1-5 Shapes with 4 sides Identify, name and combine shapes with 4 sides. Shapes in the Environment. My day and night	Alive in 5 Introduce zero Find 0-5 Represent and Subitise 0-5 1 more, 1 less Composition Conceptual subitising to 5 Mass and Capacity Compare mass Find a balance Explore capacity Compare capacity Growing 6,7,8 Find and represent 6,7,8 1 more, 1 less Composition of 6,7,8 Make pairs odd and even Find a double to 8 Make a double to 8 Find 2 groups Conceptual subitising Length, Height and Time Explore and compare length Explore and compare height	Length, Height and Time Talk about time Order and sequence time Building 9 and 10 Find, compare and represent 9 and 10 1 more, 1 less Composition to 10 Bonds to 10 Make arrangements of 10 Find a double to 10 Make a double to 10 Explore even and odd Explore 3-D Shapes Recognise and name 3D shapes Find 2D shapes within 3D shapes Using 3D shapes Complex Patterns	To 20 and Beyond Building numbers beyond 10 Continue patterns beyond 10 Verbal counting beyond 20 Verbal counting patterns How Many Now? Add more Take away Manipulate, Compose and Decompose Select shapes for a purpose Rotate, manipulate, compose and decompose shapes Explain shape arrangements Copy 2-D shape pictures Find 2D shapes within 3D shapes	Sharing and Grouping Exploring sharing and grouping Even and odd sharing Play with and build doubles Visualise, Group and Map Identify units of repeating patterns Create and explore own patterns Replicate and build scenes and constructions Visualise from different positions Describe positions Give instructions to build Exploring mapping Make Connections Deepen Understanding Patterns and relationships Consolidation

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Number: Place Value (within 10) Number: Addition and subtraction (within 10)	Number: Addition and subtraction (within 10) Geometry: Shape	Number Place Value (within 20) Number: Addition and subtraction (within 20)	Number: Place Value (within 50) (Multiples of 2,5,10 to be included) Measurement: Length and Height Weight and Volume	Number: Multiplication and Division (reinforce multiples of 2,5 and 10 to be included) Number: Fractions Geometry: Position and Direction	Number: Place Value (within 100) Measurement: Money Time
Year 2	Number: Place Value Number Addition and Subtraction	Number Addition and Subtraction Geometry: Properties of shape	Measurement: Money Number: Multiplication and Division	Measurement: Length and height Measurement: Mass, Capacity and Temperature	Number: Fractions Measurement: Time	Statistics Geometry: Position and Direction
Year 3	Number: Place Value Number: Addition and Subtraction	Number: Addition and Subtraction Number: Multiplication and division	Number: Multiplication and division Measurement: Length and Perimeter	Measurement: Mass and Capacity Number: Fractions	Number: Fractions Measurement: Money, Time	Geometry: Properties of shapes Statistics
Year 4	Number: Place Value Number: Addition and Subtraction	Measurement: Area Number: Multiplication and division	Number: Multiplication and division Measurement: Length and Perimeter Fractions	Fractions Decimals	Decimals Measurement: Money Time	Geometry: Properties of shape Statistics Geometry – position and direction
Year 5	Number: Place Value Number: Addition and Subtraction	Number: Multiplication and division Number: Fractions	Number: Multiplication and division Number: Fractions	Number: Decimals and percentages Geometry: Perimeter and area Statistics	Number: Decimals Geometry: Properties of shape	Geometry – position and direction Measurement: Converting units Measurement: Volume

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 6	Number: Place Value Number: Addition, subtraction, multiplication and division	Number: Fractions Number: Decimals Number Fractions, decimals and percentages.	Measurement: Converting units Geometry: Position and direction Statistics	Geometry: Shape Measurement: Perimeter, area and volume Number: Ratio	Consolidation of units and revision. SATs Maths investigations	Algebra Ratio Investigation