Lake Farm Park Academy
Maths Long Term Overview 2022-2023

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception		Counting, Recognising number	Counting, Recognising number, 2D shapes	2D and 3D shapes, weight/measure	Money, Addition and Subtraction to 20, Time	Addition and Subtraction to 20, Time	Time, capacity, Money, 3D shape
Skills coverage		Counting using 1:1 correspondence Recognising numbers representing numbers 2D shapes (in the environment)	Counting 1:1correspondence Recognising numbers 0-10 Size Positional language Quantity and numeral matching More / less or same 1 more than a given number to 10 2D shapes Repeating patterns	One more and one less than a given number up to 10 Comparing amounts (more/less) Estimation 2D shapes properties 3D shapes Composition of numbers to 5 Sharing Ordering numbers Addition related problem solving Number bonds to 10 Weighing Measuring 1 more than a given number to 10 Subitising to 3	-Money– 1p, 2p, 5p and 10p coin values -Subtraction up to 20 -Addition up to 20 -1 more/1 less than any given number. -Weighing (using language heavy, light, lightest) Capacity -Counting in 2s -Time– vocabulary such as first next, then, after, o'clock	⯀-Doubling · Tally charts · Pictograms · Ordinal numbers · Time vocabulary such as first next, then, after, o'clock · Subtraction up to 20 · Addition up to 20 · Patterns · Measuring	· ·Tally charts · Pictograms and block graphs · Time · Capacity · Measurements– ordering by weight, height and length. · Subtraction · Solving money related word problems · 3D shapes in the local environment
Year 1		Number Place Value (within 10) Addition and Subtraction (within 10)	Addition and Subtraction (within 10) Geometry: Shape Number: Place Value (within 20)	Number Addition and Subtraction (within 20) Place Value (within 50)	Measurement: Length and Height Weight and Volume	Number: Multiplication and Division Fractions	Geometry: Position and Direction Number: Place Value (within 100) Money and Time
Skills coverage		Sort objects Count objects 1 more 1 less 1:1 correspondence Comparing numbers More, less and equal to Ordering numbers Number line	Addition Subtraction Finding a part Finding the difference Comparing statements 2D shapes and properties 3D shapes and properties	Addition and Subtraction within 20 Add by counting on or making 10 Subtraction not crossing 10 Related facts Place Value within 50	Compare lengths and heights Measuring length and height Compare measurement Units/Non Units Measure and compare weight and mass	Count in 2s, 5s and 10s Make equal groups Make arrays Make doubles Grouping and Sharing Find a half and find half of a quantity	Describe turns Describe positions Recognising coins Recognising notes Before and After Dates Time to the hour Time to the half hour

	Adding Part whole model Addition Number bonds to 10	Place value within 20 (see Autumn 1) Tens and ones		Weight and mass problems Capacity and Volume Measure capacity Compare capacity	Find a quarter and find a quarter of a quantity	Writing Time Comparing time
Year 2	Place Value Addition and Subtraction Multiplication and Division	Addition and Subtraction Money	Multiplication and Division Statistics	2D and 3D Shapes Fractions	Measurement length and height Geometry Problem solving	Measurement Time Measurement Mass, Capacity and Temperature
Skills coverage	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.	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.	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	Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. Identify 2D shapes on the surface of 3D shapes (for example, a circle on a cylinder and a triangle on a pyramid) Compare and sort common 2D and 3D shapes and everyday objects. **Fractions:** **Children will learn to:** recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}$ $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	•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).	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 tell and write the time to five minutes, including quarter past/to the hour and draw

				division facts, including problems in contexts.	write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.		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.
Year 3		Place Value Addition / Subtraction	Addition / Subtraction Multiplication /Division	Multiplication /Division Money Statistics	Length/ Perimeter Fractions	Fractions Time	Geometry Mass and Capacity
Skills coverage		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 3-digit number (100s, 10s, 1s) compare and order numbers up to 1,000 identify, represent and estimate numbers using different representations read and write numbers up to 1,000 in numerals and in words solve number problems and practical problems involving these ideas	add and subtract numbers mentally, including: a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s add and subtract numbers with up to 3 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	•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	•measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) •measure the perimeter of simple 2-D shapes •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	•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, am/pm, 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]	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 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 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 measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

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				objects are connected to m objects •add and subtract amounts of money to give change, using both £ and p in practical contexts •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	fractions with small denominators •add and subtract fractions with the same denominator within one whole •compare and order unit fractions, and fractions with the same denominators •solve problems that involve all of the above		
Year 4		Place Value and the number system Addition and subtraction	Measurement & Multiplication and Division	Measures and data	Decimals and fractions Shape	Addition and subtraction Decimals and fractions	Multiplication and division
Skills coverage		Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers Count up and down in hundredths Read and write numbers to at least 10 000 Read and write numbers with up to two decimal places Recognise the place value of each digit in a four-	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 hundredth Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method)	Estimate and calculate lengths Compare lengths Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Understand that area is a measure of surface within a given boundary Find the area of rectilinear shapes by counting squares	Understand that a fraction is one whole number divided by another (for example, can be interpreted as 3 ÷ 4) Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators Add and subtract fractions with the same	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 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, division (including interpreting remainders), integer scaling problems and harder correspondence problems such as n objects are connected to m objects

	digit number (thousands, hundreds, tens, and ones)	Recognise and use factor pairs and commutativity in mental calculations Recall multiplication and division facts for multiplication tables up to 12 × 12	Estimate and calculate mass	denominator 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		
Year 5	Place Value Addition and Subtraction	Multiplication and Division Fractions	Multiplication and Division, Fractions and Decimals	Percentages, Perimeter/Area, Statistics	Shape, Position/Direction, Decimals	Negative numbers, Converting units, Volume
Skills coverage	**Place Value** 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	**Multiplication and Division** 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	Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers Establish whether a number up to 100 is prime and recall prime numbers up to 19 Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) Recognise mixed numbers and improper fractions and convert from one form to the other Read and write decimal numbers as fractions (e.g. 0.71 = 71/100	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 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	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Use the properties of rectangles to deduce related facts and find missing lengths and angles 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 (°) Identify:	Continue to order temperatures including those below 0°C Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Estimate (and calculate) volume (for example, using 1 cm3 blocks to build cuboids (including cubes)) and capacity (for example, using water) Understand the difference between liquid volume, including capacity and solid volume

	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. Addition and subtraction 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	multiplication for two-digit numbers	Count on and back in mixed number steps such as Compare and order fractions whose denominators are all multiples of the same number (including on a number line)		-angles at a point and one whole turn (total 360°) -angles at a point on a straight line and 1/2 a turn (total 180°) -other multiples of 90	
Year 6	Number: Place Value Number: 4 operations	Number: Fractions Geometry: Position and Direction Number: Decimals	Number: Percentages, Algebra Measurement: Conversion, Perimeter, Area, Volume	Number: Ratio Statistics Geometry: Properties of shape	Consolidation SATs revision	Maths investigations
Skills coverage	Identify, represent and estimate numbers using the number line Order and compare numbers including integers, decimals and negative numbers. Round decimals with three decimal places to the nearest whole number or one or two decimal places	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method) Solve problems involving addition, subtraction, multiplication and division Fractions:	Decimals: three places, multiple/divide by 10,100,1000, divide/multiply by integers, decimals as fractions, fractions to decimals Percentages: fractions to percentages, equivalent FDP, order FDP,	Measurement: convert and calculate in metric, miles and km imperial Measurement: shape-same area, perimeter, area of triangle/parallelogram, volume-cube, cuboid Ratio:	Consolidate skills such as: Identify, represent and estimate numbers using the number line Order and compare numbers including integers, decimals and negative numbers. Round decimals with three decimal places to	Consolidate skills such as: Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known or related fact, calculate mentally, use a jotting, written method) Solve problems involving addition, subtraction, multiplication and division

		Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) Select a mental strategy appropriate for the numbers involved in the calculation Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy Use their knowledge of the order of operations to carry out calculations involving the four operations	compare and order, add/subtract fractions, mixed add/subtract, multiply/divide fractions by integers and fractions, fraction of an amount <u>Geometry:</u> 4 quadrants, translation, reflection	percentages of an amount <u>Algebra:</u> find a rule-one & two step, expressions, formulae, equations, one & two step equations	ratio and fractions, ratio, scale factors, ratio/proportion problems	the nearest whole number or one or two decimal places Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) Select a mental strategy appropriate for the numbers involved in the calculation	Divide/multiply by integers, Convert decimals as fractions, and fractions to decimals.