MATHS

Oldbrook First School
Living and Learning Together

MATHS INTENT STATEMENT

At Oldbrook First School, our aim is to design a curriculum, which is accessible to all and will maximise the development of every child's ability and academic achievement. We deliver lessons that are creative and engaging. We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. We intend for our children to be able to apply their mathematical knowledge to science and other subjects. We want our children to know that it is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. As our children progress, we intend for our pupils to be able to understand the world, have the ability to reason mathematically and to have a sense of enjoyment and curiosity about the subject.

MATHS IMPLEMENTATION

The maths curriculum is a broad and balanced curriculum which includes elements of number, calculation, geometry, measures and statistics. We aim to build fluency and precision in these areas and to think about numbers in a different way. Due to the interconnected nature of mathematics, we aim to teach maths in a cross curricular manner as well as discretely to teach the practical application of mathematical skills. We focus not only on the mathematical methods but also focus on mathematical vocabulary and to use a range of strategies to broaden and deepen mathematical understanding. We aim for each child to be confident in each yearly objective and develop their ability to use this knowledge to develop a greater depth understanding to solve varied fluency problems as well as problem solving and reasoning questions.

MATHS IMPACT

Pupils at Oldbrook First School a variety of methods are used to find out what the children know and understand. Lesson activities are differentiated to suit the different abilities and learning styles. Mathematics lessons allow for collaborative learning and thus encourage children to talk in pairs, small groups or through class discussion, to share learning. For those children who grasp concepts rapidly, they will be challenged through a range of problems, whilst those not sufficiently fluent will be provided with opportunities to consolidate their understanding through additional practice and first response intervention. Children's understanding of taught concepts will be assessed using end of term assessment tasks which provide opportunities for children to demonstrate their understanding fully. Evidence of the children's learning journey through each Mathematics topic will be recorded in Maths books and next steps for each child recorded.

As each unit of work is covered, we consider the related intended learning, recognise children who are working at or beyond the expected level for Key Stage 1, as well as identifying the children who need and who will therefore receive support. Children in the Foundation Stage will be assessed against the Early Years Learning Goal. Children in Year 2 will be assessed against the End of Year 2 Teacher Assessment Framework**.**

Mathematics monitoring includes book looks, lesson observations and/or learning walks, across key stage, year group and whole school moderations. pupil voice interviews in order to ascertain correct curriculum coverage, the quality of teaching and learning as well as the children's attitudes to and retention of maths learning. This information is then used to inform further curriculum developments and provision is adapted accordingly.

MATHS OVERVIEW

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Nursery	Place value Representing numbers Number patterns Sorting by colour	Place value Representing numbers Number patterns Comparing size/ordering by size Shape	Place value Representing numbers Number patterns Weight Repeating pattern	Place value Representing numbers Number patterns Capacity Positional language	Place value Representing numbers Number patterns Time Days of the week Shape	Place value Representing numbers Number patterns Money, coins Directions/rotations Symmetry
Reception	Place value Equality Subitising Number bonds Calculation Representing numbers Number patterns Sorting by colour Comparing and matching patterns	Place value Equality Subitising Number bonds Calculation Representing numbers Number patterns Comparing size/ordering by size Shape	Place value Equality Subitising Number bonds Calculation Representing numbers Number patterns Weight Repeating pattern	Place value Equality Subitising Number bonds Calculation Representing numbers Number patterns Capacity Positional language	Place value Equality Subitising Number bonds Calculation Representing numbers Number patterns Time Days of the week Shape	Place value Equality Subitising Number bonds Calculation Representing numbers Number patterns Money, coins Directions/rotations Symmetry
Year 1	Place Value Addition & Subtraction	Addition & Subtraction Shape Place Value	Addition & Subtraction Place Value: multiples of 2s, 5s, 10s	Measures: Length & Height Weight & Volume	Multiplication & Division Fractions Position & Direction	Place Value Money Time
Year 2	Place Value Addition & Subtraction	Money Multiplication	Division Shape Fractions	Statistics Time Addition & Subtraction Multiplication & Division	Position & Movement Reading scales Arithmetic Length & Height	Mass, capacity & temperature Addition & Subtraction Multiplication & Division

CULTURAL CAPITAL OVERVIEW

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Nursery				World Maths Day		
Reception				World Maths Day		
Year 1				World Maths Day		
Year 2				World Maths Day		

MATHS PROGRESSION OF SKILLS

	Early Years Foundation Stage	Year One	Year Two	Next Steps
Number and Place Value	recognise and count reliably with numbers 1-20 and place them in order count objects reliably say which number is one more or less than a given number records using marks that they can interpret and explain	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.	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.	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.

Addition and Subtraction	using quantities and objects children add and subtract two single digit numbers and count on or back to find the answer begin to use the vocabulary involved in addition and subtraction identifies own mathematical problems based on own interests and fascinations	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.	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.	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.

Multiplication and Division	solve problems involving doubling halving and sharing	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.	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.	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.

Fractions	solve problems involving doubling halving and sharing	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	recognise, find, name and write fractions ⅓, ¼, ¾ and ¾ of a length, shape, set of objects or quantity write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of two quarters and one half.	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, ⅝ + ⅐ = ⅙] compare and order unit fractions with the same denominator solve problems that involve all of the above.

Measurement	use everyday language to talk about size, weight, capacity, distance, time and money compare objects and quantities and solve problems order two or three items by length, weight, height and capacity orders and sequences three events within a day	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] 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.	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 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.	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].

Geometry- Properties of shape	recognise, create and describe patterns explore the characteristics of everyday objects and shapes 2-D/3-D and use mathematical language to describe them	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].	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.	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.
Geometry- position and direction	children use everyday language to talk about position and direction	describe position, direction and movement, including whole, half, quarter and three-quarter turns.	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).	

Statistics			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.	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.

Maths Vocabulary for EYFS								
Size	Weight	Capacity	Position	Distance	Time	Money	Shape	Pattern
Tall/taller Big Littke Middle sizw Small Medium Long Short Tiny Large Cm Thickest enormous	Heavy Heavier Light Lightest	Full Empty Half full Enough	Next to Between Behind Under In front Over High On top Up In On First Second Third Fourth	Far away	Today Tomorrow Day after Friday Saturday Early Evening Morning Yesterday Night	2p 10p Pounds Enough Bill Change Amount Costs	Circles Hexagons Square Rectangle Triangle Diamond Sphere Sides Corners Flat curved	A,B – green, blue, green, blue A,B,C - Red, blue, green, red, blue, green

Mathematics vocabulary for Year 1							
Number and place value	Addition and subtraction	Multiplication and division	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	General/problem solving
Number Zero, one, two, three to twenty, and beyond None Count (on/up/to/from/ down) Before, after More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as Odd, even Pair Units, ones, tens Ten more/less Digit Numeral Figure(s) Compare (In) order/a different order Size Value Between, halfway between Above, below	Number bonds, number line Add, more, plus, make, sum, total, altogether Inverse commutative Double, near double Half, halve Equals, is the same as (including equals sign) Difference between How many more to make..? How many more is…than..? How much more is..? Subtract, take away, minus How many fewer is…than..? How much less is..?	Odd, even Count in twos, threes, fives Count in tens (forwards from/backwards from) How many times? Lots of, groups of Once, twice, three times, five times Multiple of, times, multiply, multiply by Repeated addition Array, row, column Double, halve Share, share equally Group in pairs, threes, etc. Equal groups of Divide, divided by, left, left over	Full, half full, empty Holds Container Weigh, weighs, balances Heavy, heavier, heaviest, light, lighter, lightest Scales Time Days of the week: Monday, Tuesday, etc. Seasons: spring, summer, autumn, winter Day, week, month, year, weekend Birthday, holiday Morning, afternoon, evening, night, midnight Bedtime, dinnertime, playtime Today, yesterday, tomorrow Before, after Next, last Now, soon, early, late Quick, quicker, quickest, quickly , fast, faster, fastest, slow, slower, slowest, slowly Old, older, oldest, new, newer, newest Takes longer, takes less time Hour, o'clock, half past Clock, watch, hands How long ago? How long will it be to…? How long will it take to…? How often? Always, never, often, sometimes, usually Once, twice First, second, third, etc. Estimate, close to, about the	Position Over, under, underneath, above, below, top, bottom, side on, in, outside, inside around, in front, behind Front, back Before, after Beside, next to, Opposite Apart Between, middle, edge, centre Corner Direction Journey Left, right, up, down, forwards, backwards, sideways Across Close, far, near Along, through To, from, towards, away from Movement Slide, roll, turn, whole turn, half turn Stretch, bend	Group, sort Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square Shape Flat, curved, straight, round Hollow, solid Corner (point, pointed) Face, side, edge Make, build, draw	Whole Equal parts, four equal parts One half, two halves A quarter, two quarters	Listen, join in Say, think, imagine, remember Start from, start with, start at Look at, point to Put, place, fit Arrange, rearrange Change, change over Split, separate Carry on, continue, repeat & what comes next? Find, choose, collect, use, make, build Tell me, describe, pick out, talk about, explain, show me Read, write, record, trace, copy, complete, finish, end Fill in, shade, colour, tick, cross, draw, draw a line between, join (up), ring, arrow Cost Count, work out, answer, check same number(s)/different number(s)/missing number(s) Number facts, number line, number track, number square, number cards Abacus, counters, cubes, blocks, rods, die, dice, dominoes, pegs, peg board Same way, different way, best way, another way In order, in a different order Not all, every, each

			same as, just over, just under Too many, too few, not enough, enough Length, width, height, depth Long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest Low, wide, narrow, deep, shallow, thick, thin Far, near, close Metre, ruler, metre stick Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear(er), costs more, costs less, cheaper, costs the same as How much? How many? Total				

Maths Vocabulary for Year 2						
Number and place value	Measure	Geometry (position and direction)	Geometry (properties of shape)	Fractions	Data/statistics	General/problem solving
Numbers to one hundred Hundreds Partition, recombine Hundred more/less	Quarter past/to m/km, g/kg, ml/l Temperature (degrees)	Rotation Clockwise, anticlockwise Straight line Ninety degree turn, right angle	Size Bigger, larger, smaller Symmetrical, line of symmetry Fold Match Mirror line, reflection Pattern, repeating pattern	Three quarters, one third, a third Equivalence, equivalent	Count, tally, sort Vote Graph, block graph, pictogram, Represent Group, set, list, table Label, title Most popular, most common, least popular, least common	Predict Describe the pattern, describe the rule Find, find all, find different Investigate