Wallace Fields Infant School & Nursery
Maths Progression Overview

Maths: ELG (M)	
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 • 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.	
3-4 years	**In Reception**
• Develops fast recognition of up to 3 objects, without having to count them individually (subitising) • Recites numbers past 5. • Says one number for each item in order. • Knows that the last number reached when counting tells how many in total (cardinal principles). • Show 'finger numbers' up to 5. • Links numerals and amounts. • Experiments with their own symbols and marks as well as numerals. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using 'more than' and 'fewer than'. • Talk about and explore '2D' and '3D' shapes using informal and mathematical language e.g. sides, corners, straight, flat, round through block play. • Understand position through words and without pointing. • Can describe a familiar route. • Discuss routes and locations using words like 'in front' and 'behind'. • Make comparisons between objects relating to size, length, weight and capacity.	• Can count in order and match one number name to each item. • Can say how many there are after counting (cardinality). • Is able to count out a smaller number from a larger group and knows when to stop. • Can automatically recall number bonds to 5. • Can recognise small quantities by looking at them (subitising). • Understands how to use a 5 frame and a 10 frames. • Can subitise first and then count to check. • Can show a number of fingers without counting. • Is able to record a quantity using numerals. • Can use the vocabulary of 'more than', 'less than', 'fewer', 'the same as', 'equal to'. • Understands one more than/one less than. • Understands the parts within a whole to 10. • Can automatically recall number bonds to 10. • Is able to continue, copy and create repeating patterns. • Can compare length and weight. • Can record quantities in different ways. • Understands how a number track works. • Is becoming familiar with two-digit numbers and notices patterns within them.

Wallace Fields Infant School & Nursery
Maths Progression Overview

• **Can notice and correct an error in a repeating pattern.** • **Can extend and create ABAB patterns.** • **Begins to describe a sequence of events (real and fictional) using first, then, after, before.** • **Uses vocabulary like 'morning', 'afternoon', 'evening', 'today', 'yesterday' and 'tomorrow'.**	• **Can count beyond 20.** • **Is able to select, rotate and manipulate shapes.** • **Can compose and decompose shapes.** • **Can compare capacity and volume.**
<u>Nursery Key Vocabulary:</u> **1, 2, 3, 4, 5, 6, 7, 8, 9, 10,** **more, less,** **share, half,** **now, next** **circle, triangle, square, rectangle**	**<u>Reception Key Vocabulary:</u>** **1, 2, 3, 4, 5, 6, 7, 8, 9, 10 one, two, three, four, five, six, seven, eight, nine, ten, zero, count, forwards, backwards, how many, total, altogether, five frame, same, different, sort, group, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, subitise** **More, fewer, same, different, match, compare, equal, less, fewer, greater, more, first, then, now, number story, part whole model, ten frame, part, whole, adding, bead string, take away** **Double, equal groups, half, halving, share, equal, uneven, unequal** **Size, shape colour, pattern, bigger, smaller, first, then, now, before, after, every day, time, order, sequence, in, on, below, up, down, left, right, longer, shorter, heavy, heavier, full, empty, length, width, capacity, balance, estimate, compare**

Maths: End of Key Stage One National Curriculum Expectations
KS1: • Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Wallace Fields Infant School & Nursery
Maths Progression Overview

Year Group	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of Shape	Statistics
Year One	<u>Counting</u> 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 <u>Comparing Numbers</u> Use the language of: equal to, more than, less than (fewer), most, least <u>Identifying, representing and estimating numbers</u> Identify and represent numbers using objects and pictorial representations including the number line <u>Reading and writing numbers</u> Read and write numbers from 1 to 20 in numerals and words.	<u>Number Bonds</u> Represent and use number bonds and related subtraction facts within 20 <u>Mental Calculation</u> Add and subtract one-digit and two-digit numbers to 20, including zero <u>Written Methods</u> Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs <u>Problem solving</u> Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	<u>Multiplication and division facts</u> Count in multiples of twos, fives and tens *(copied from Number and Place Value)* <u>Problem solving</u> 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	<u>Recognising Fractions</u> 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	<u>Comparing and Estimating</u> Compare, describe and solve practical problems for: * lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] * time [e.g. quicker, slower, earlier, later] Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] <u>Measuring and calculating</u> Measure and begin to record the following: * lengths and heights * mass/weight * capacity and volume * time (hours, minutes, seconds)	<u>Identifying shapes and their properties</u> Recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. <u>Position, direction and movement</u> Describe position, direction and movement, including half, quarter and three-quarter turns.	

Wallace Fields Infant School & Nursery
Maths Progression Overview

					Recognise and know the value of different denominations of coins and notes <u>Telling the time</u> Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Recognise and use language relating to dates, including days of the week, weeks, months and years		
Year One Key Vocabulary:	**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** **Ones, tens** **Ten more/less** **Digit** **Numeral** **Figure(s)** **Compare** **(In) order/a different order** **Size** **Value** **Between, halfway between** **Above, below** **Ten frame**	**Subitise** **Number bonds, number line** **Add, more, plus, make, sum, total, altogether** **Addend** **Aggregation, augmentation** **Commutative** **Inverse** **Double, near double** **Half, halve** **Equals, is the same as (=)** **Difference between** **Minuend, subtrahend** **Partitioning** **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..?** **Part Whole model** **Part, whole**	**Odd, even** **Count in twos, fives** **Count in tens (forwards from/backwards from)** **How many times?** **Lots of, groups of** **Once, twice, five times** **Multiple of, times, multiply, multiply by** **Array, row** **Commutative** **Double, halve** **Share, share equally, sharing** **Grouping** **Group in pairs etc.** **Equal groups of**	**Whole** **Equal parts, four equal parts** **One half, two halves** **A quarter, two quarters**	**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,** **Today, yesterday, tomorrow** **Before, after** **Hour, o'clock, half past** **Clock, watch, hands** **First, second, third, etc.** **Estimate** **Length, width, height, depth** **Metre, ruler, metre stick** **Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change**	**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** **Position** **Over, under, underneath, above, below, top, bottom, side** **on, in, outside, inside** **around, in front, behind** **Left, right, up, down, forwards, backwards, whole turn, half turn**	

Wallace Fields Infant School & Nursery
Maths Progression Overview

Year Two	<u>Counting</u> Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward <u>Comparing Numbers</u> Compare and order numbers from 0 up to 100; use <, > and = signs <u>Identifying, representing and estimating numbers</u> Identify, represent and estimate numbers using different representations, including the number line <u>Reading and writing numbers</u> Read and write numbers to at least 100 in numerals and in words <u>Understanding place value</u> Recognise the place value of each digit in a two-digit number (tens, ones) <u>Problem Solving</u>	<u>Number Bonds</u> Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 <u>Mental Calculation</u> 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 <u>Inverse operations, estimating and checking answers</u> Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and	<u>Multiplication and division facts</u> Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward *(copied from Number and Place Value)* Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers <u>Mental Calculation</u> Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <u>Written calculation</u> Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs <u>Problem solving</u>	<u>Counting in fractional steps</u> *Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)* <u>Recognising Fractions</u> Recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity <u>Equivalence</u> Write simple fractions e.g. $^{1}/_{2}$ of 6 = 3 and recognise the equivalence of $^{2}/_{4}$ and $^{1}/_{2}$.	<u>Comparing and Estimating</u> Compare and order lengths, mass, volume/capacity and record the results using >, < and = Compare and sequence intervals of time <u>Measuring and calculating</u> 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 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	<u>Identifying shapes and their properties</u> 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 <u>Position, direction and movement</u> 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)	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

Wallace Fields Infant School & Nursery
Maths Progression Overview

	Use place value and number facts to solve problems	solve missing number problems. <u>Problem solving</u> 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	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change <u>Telling the time</u> 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.	<u>Pattern</u> Order and arrange combinations of mathematical objects in patterns and sequences	
Year Two Key Vocabulary:	**Review Y1 Vocabulary** **Numbers to one hundred** **Hundreds** **Partition, recombine** **Hundred more/less**	**Review Y1 Vocabulary** **Bar model** **Addend** **aggregation, augmentation** **commutative** **subitise** **sum** **total**	**Review Y1 Vocabulary** **Repeated addition** **Factor** **product** **Divide, divided by** **left, left over,** **dividend, divisor, quotient**	**Review Y1 Vocabulary** **Three quarters, one third, a third** **Equivalence, equivalent**	**Review Y1 Vocabulary** **Quarter past/to** **m/km, g/kg, ml/l** **Temperature (degrees)**	**Rotation** **Clockwise, anticlockwise** **Straight line** **Ninety degree turn, right angle** **Mirror line, reflection** **Pattern, repeating pattern** **Symmetrical, line of symmetry**	**Count, tally, sort** **Vote** **Graph, block graph, pictogram,** **Represent** **Group, set, list, table** **Label, title** **Most popular, most common, least popular, least common**

The National Curriculum for Maths aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.