



# SANDRINGHAM INFANT AND NURSERY ACADEMY

## Progression of Skills



### Mathematics

| Nursery - 3- and 4-year-olds   | Reception  |
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| <ul style="list-style-type: none"> <li>Use a wider range of vocabulary.</li> <li>Understand 'why' questions, like: "why do you think the caterpillar is so fat"</li> </ul>   | <ul style="list-style-type: none"> <li>Learn new vocabulary.</li> <li>Use new vocabulary throughout the day.</li> </ul>  |
| <b>NUMBER AND PLACE VALUE</b>  |  |
| <u>Counting</u> <ul style="list-style-type: none"> <li>Recite numbers past 5.</li> <li>Say one number name for each item in order: 1, 2, 3, 4, 5.</li> <li>Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li> </ul>   | <u>Counting</u> <ul style="list-style-type: none"> <li>Count objects, actions and sounds.</li> <li>Count beyond ten.</li> </ul>  |
| <u>Identifying, Representing and Estimating Numbers</u> <ul style="list-style-type: none"> <li>Fast recognition of up to 3 objects, without having to count them individually ('subitising').</li> <li>Show 'finger numbers' up to 5.</li> <li>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li> <li>Experiment with their own symbols and marks as well as numerals.</li> </ul> | <u>Identifying, Representing and Estimating Numbers</u> <ul style="list-style-type: none"> <li>Subitise.</li> <li>Link the number symbol (numeral) with its cardinal number value.</li> </ul>                                |
| <u>Reading and Writing Numbers</u> <ul style="list-style-type: none"> <li>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li> </ul> Experiment with their own symbols and marks as well as numerals.   | <u>Reading and Writing Numbers</u> <ul style="list-style-type: none"> <li>Link the number symbol (numeral) with its cardinal number value.</li> </ul>  |
| <u>Compare and Order Numbers</u><br>Compare quantities using language: 'more than', 'fewer than'.  | <u>Compare and Order Numbers</u> <ul style="list-style-type: none"> <li>Compare numbers.</li> </ul>  |
| <u>Understanding Place Value</u>   | <u>Understanding Place Value</u> <ul style="list-style-type: none"> <li>Understand the 'one more than/one less than' relationship between consecutive numbers.</li> <li>Explore the composition of numbers to 10.</li> </ul> |
| <u>Solve Problems</u> <ul style="list-style-type: none"> <li>Solve real world mathematical problems with numbers up to 5</li> </ul>  | <u>Solve Problems</u>  |
| <b>Vocabulary</b>  |  |
| One more/less, count, forwards, backwards, odd, even, few, pattern, pair, ones, tens, digit, same, first, second, third, last, before, next, between, pattern, puzzle, what could we try next? how did you work it out?, recognise, describe, draw, compare, sort.   |  |
| <b>ADDITION AND SUBTRACTION</b>  |  |

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| <u>Mental Calculations</u>  | <u>Mental Calculations</u>  |
|   | <ul style="list-style-type: none"> <li>Automatically recall number bonds for numbers 0-10.</li> </ul>   |
|   | <u>Solve Problems</u>   |
|   | <ul style="list-style-type: none"> <li>Subitise.</li> <li>Link the number symbol (numeral) with its cardinal number value.</li> </ul>                                       |
| <b><u>Vocabulary</u></b>  |   |
| add, subtract, take away, more, less, plus, equal, altogether, total, make,   |   |
| <b>MEASUREMENT</b>  |   |
| <u>Described, Measure, Compare and Solve (All Strands)</u>  | <u>Described, Measure, Compare and Solve (All Strands)</u>  |
| <ul style="list-style-type: none"> <li>Make comparisons between objects relating to size, length, weight and capacity.</li> </ul>   | <ul style="list-style-type: none"> <li>Compare length, weight and capacity.</li> </ul>  |
| <u>Telling the Time</u>   |   |
| <ul style="list-style-type: none"> <li>Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'</li> </ul>  |   |
| <b><u>Vocabulary</u></b>  |   |
| Long, short, tall, high, low, wide, narrow, thick, thin, longer, shorter, taller, higher, longest, shortest, tallest, highest, far, near, close, weigh, weighs, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales, full, empty, half full, holds, container, compare, guess, much, little, many, few, time, days of the week, day, week, birthday, holiday, morning, afternoon, evening, night, bedtime, dinner time, playtime, today, yesterday, tomorrow, before, after, next, last, now, soon, early, later, quick, quicker, quickest, quickly, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest, takes longer, takes less time, hour, o'clock, clock, watch, hands, money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay |   |
| <b>PROPERTIES OF SHAPE</b>  |   |
| <u>Recognising 2D and 3D Shapes and their Properties</u>  | <u>Recognising 2D and 3D Shapes and their Properties</u>  |
| <ul style="list-style-type: none"> <li>Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'.</li> <li>Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc.</li> <li>Combine shapes to make new ones – an arch, a bigger triangle, etc.</li> </ul>  | <ul style="list-style-type: none"> <li>Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</li> </ul>  |
| <u>COMPARE AND CLASIFY SHAPES</u>   | <u>COMPARE AND CLASIFY SHAPES</u>   |
|   | <ul style="list-style-type: none"> <li>Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.</li> </ul> |
| <b><u>Vocabulary</u></b>  |   |
| Shape, pattern, flat, curved, straight, round, hollow, solid, sort, make, build, draw, size, bigger, larger, smaller, symmetrical, pattern, repeating pattern, match, corner, side, rectangle, circle, triangle, face, edge, vertex, vertices, cube, pyramid, sphere, cone  |   |
| <b>POSITION AND DIRECTION</b>   |   |
| <u>Position, Direction and Movement</u>   | <u>Position, Direction and Movement</u>   |
| <ul style="list-style-type: none"> <li>Understand position through words alone – for example, "The bag is under the table," – with no pointing.</li> <li>Describe a familiar route.</li> <li>Discuss routes and locations, using words like 'in front of' and 'behind'.</li> </ul>  | <ul style="list-style-type: none"> <li>Draw information from a simple map.</li> </ul>   |

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| <p><u>Patterns</u></p> <ul style="list-style-type: none"> <li>Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘D</li> <li>Notice and correct an error in a repeating pattern.</li> </ul>  | <p><u>Patterns</u></p> <ul style="list-style-type: none"> <li>Continue, copy and create repeating patterns.</li> </ul> |
| <p><b>Vocabulary</b></p> <p>Position, over, under, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, besides, next to, opposite, apart, between, middle, edge, corner, direction, left, right, up, down, forwards, backwards, sideways, across, next to, close, near, far, along, through, to, from, towards, away from, movement, slide, roll, turn, stretch, bend, whole turn, half turn.</p> |  |

### Key Stage One

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| <b>COMPARING NUMBERS</b>   |   |
| <b>Year 1</b>  | <b>Year 2</b>   |
| <ul style="list-style-type: none"> <li>Use the language of: equal to, more than, less than (fewer), most, least.</li> </ul>          | <ul style="list-style-type: none"> <li>Compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs.</li> </ul>       |
| <p><b>Vocabulary</b></p>   |   |
| <p>Digit, number track, place value, sort, less/fewer, more/greater, more than less than, equal to, compare, numeral, part whole</p> | <p>Representation, less than, equal, greater than partition, strategy, tens frame, place value, counters, diennes (base 10)</p> |

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| <b>COUNTING</b>   |   |
| <b>Year 1</b>   | <b>Year 2</b>   |
| <ul style="list-style-type: none"> <li>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.</li> <li>Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.</li> <li>Given a number, identify one more and one less.</li> </ul> | <ul style="list-style-type: none"> <li>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward.</li> </ul> |
| <p><b>Vocabulary</b></p>  |   |
| <p>Digit, number track, place value, sort, less/fewer, more/greater, more than less than, equal to, compare, numeral, part whole, tens frame, number line</p>   | <p>Representation, less than, equal, greater than partition, strategy, tens, ones, place value, counters, diennes (base 10)</p>           |

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| <b>IDENTIFYING, REPRESENTING &amp; ESTIMATING</b>   |  |
| <b>Year 1</b>   | <b>Year 2</b>  |
| <ul style="list-style-type: none"> <li>Identify and represent numbers using objects and pictorial representations including the number line.</li> <li>Read and write numbers from 1 to 20 in numerals and words.</li> </ul> | <ul style="list-style-type: none"> <li>Identify, represent and estimate numbers using different representations, including the number line read and write numbers to at least 100 in numerals and in words.</li> </ul> |
| <p>Digit, number track, place value, sort, less/fewer, more/greater, more than, less than, equal to, compare, numeral, part whole, guess, predict</p>   | <p>Estimate, represent, calculation</p>  |

| PROBLEM SOLVING |   |
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| <b>Year 1</b>   | <b>Year 2</b>   |
|                 | <ul style="list-style-type: none"> <li>Use place value and number facts to solve problems.</li> </ul>                                     |
| Vocabulary      |   |
|                 | <p>pattern, puzzle, calculate, calculation, jotting, answer, how many, how can I show, I got the answer by..., I know this because...</p> |

| Addition and Subtraction  |  |
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| <b>Year 1</b>   | <b>Year 2</b>  |
| <ul style="list-style-type: none"> <li>Represent and use number bonds and related subtraction facts within 20.</li> <li>Add and subtract one digit and two-digit numbers up to 20, including 0.</li> <li>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation.</li> <li>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = 4 + \underline{\quad}</math>.</li> </ul> | <ul style="list-style-type: none"> <li>Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100.</li> <li>Using concrete equipment and pictorial representations, add and subtract numbers including:               <ul style="list-style-type: none"> <li>A two-digit number and ones</li> <li>A two-digit number and tens</li> <li>Add two two-digit numbers</li> <li>Add three one-digit numbers</li> </ul> </li> <li>Begin to practise strategies for the development of mental calculation (particularly of number bonds).</li> <li>Recognise and apply the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</li> <li>To use concrete and pictorial representations to solve problems including addition and subtraction; quantities and measures. Children will be moving towards a written method.</li> </ul> |
| Vocabulary  |  |
| <p>Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line.</p> <p>Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer / less than, most, least, count back, how many are left, how much less is <u>  </u>?</p>  | <p>Sum, tens, units, partition, addition, column, tens boundary</p> <p>Difference, count back, strategy, partition, tens, ones</p>   |

| MULTIPLICATION & DIVISION   |   |
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| <b>Year 1</b>   | <b>Year 2</b>   |
| <ul style="list-style-type: none"> <li>Count in multiples of 2's, 5's and 10's – identifying patterns.</li> </ul> | <ul style="list-style-type: none"> <li>Recall multiplication and division facts for the 2,5 and 10 multiplication tables.</li> <li>Recall and recognise odd and even numbers – linking them to the multiplication tables.</li> <li>Calculate mathematical statements for multiplication and division. within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and</li> </ul> |

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|  | <p>equals (=) signs.</p> <ul style="list-style-type: none"> <li>Understand/ show that the multiplication of two numbers is commutative and that division by another is no.</li> <li>Solve problems including multiplication and division using a range of concrete and pictorial representations. For example, arrays, repeated addition, mental strategies and known multiplication and division facts.</li> </ul> |
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| <b>Vocabulary</b>  |   |
| Groups of, lots of, times, array, altogether, multiply, count share, share equally, one each, two each..., group, groups of, lots of | <p>Multiplied by, repeated addition, column, row, commutative, sets of, equal groups of, times as big as, once, twice, three times...</p> <p>Divide, divided by, divided into, division, grouping, number line, left, left over</p> |

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| <b>FRACTIONS</b> |  |
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| <b>Year 1</b>  | <b>Year 2</b>  |
| <ul style="list-style-type: none"> <li>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</li> <li>Recognise, find and name a quarter as being one of four equal parts of an object, shape or quantity.</li> </ul> | <ul style="list-style-type: none"> <li>Recognise, find, name and write fractions – <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> (<math>\frac{1}{2}</math>) and <math>\frac{3}{4}</math> and apply to lengths, shapes, objects or quantities.</li> <li>Write simple fractions. For example - <math>\frac{1}{2}</math> of 6 = 3.</li> <li>Recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</li> </ul> |

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| <b>Vocabulary</b>  |   |
| Whole, half, share, 2 equal parts, quarter, 4 equal parts. | Parts, one third, two quarters, three quarters, equivalence |

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| <b>MEASUREMENT</b> |  |
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| <b>Year 1</b>   | <b>Year 2</b>  |
| <ul style="list-style-type: none"> <li>Measure and begin to record lengths/height, mass/weight, capacity/volume, time (seconds, minutes and hours).</li> <li>Compare, describe and solve practical problems (including using the correct vocabulary) for: <ul style="list-style-type: none"> <li>Length/height (long/short, taller/shorter, double/half)</li> <li>Mass/weight (heavy/light, heavier, lighter)</li> <li>Capacity/volume (full/empty, more than, less than, half, full, quarter)</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Compare and order lengths, mass, volume/capacity and record the results using equality symbols.</li> <li>Choose and use an appropriate standard unit to estimate and measure length/height in any direction (cm/m); mass (g/kg); temperature(c); capacity (ml/l) to the nearest appropriate unit – using rulers, thermometers and measuring vessels.</li> </ul> |

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| <b>Vocabulary</b>   |   |
| <p>Length/height/mass/weight/capacity/volume</p> <p>long/short, taller/shorter, double/half</p> <p>heavy/light, heavier, lighter</p> <p>full/empty, more than, less than, half, full, quarter</p> | <p>cm/m g/kg ml/l</p> <p>Quarter past/to, metres, kilometers, grams, kilograms, millimeters, liters, temperature, degrees</p> |

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| <b>MONEY</b> |  |
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| <b>Year 1</b> | <b>Year 2</b> |
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| <ul style="list-style-type: none"> <li>Recognise and know the value of different denominations of coins and notes</li> </ul> | <ul style="list-style-type: none"> <li>Recognise and use the symbols for pounds (£) and pence (p).</li> <li>Combine pounds and pence to make a given value.</li> <li>Recognise and find combinations of coins that equal the same amount of money.</li> <li>Solve problems in practical contexts involving the addition and subtraction of money of the same unit, including giving change.</li> </ul> |
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| <b>Vocabulary</b>  |  |
| <p>pound, pence, 1 pence, 2 pence, 5 pence, 10 pence, 20 pence, 50 pence, 1 pound coin, 2 pound coin, 5 pound note, 10 pound note, 20 pound note, 50 pound note.</p> | <p>value, change, combinations, symbols, budget, cost, spend, spending</p> |

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| <b>TIME</b> |  |
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| <b>Year 1</b>   | <b>Year 2</b>   |
| <ul style="list-style-type: none"> <li>Sequence events in chronological order using language of before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.</li> <li>Recognise and use language relating to dates (days of the week, weeks, months and years).</li> <li>Read and draw the time to the hour and half past the hour.</li> <li>Sequence events in chronological order using language of before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.</li> </ul> | <ul style="list-style-type: none"> <li>Compare and sequence intervals of time.</li> <li>Read and write the time to 5-minute intervals including quarter past/to the hour.</li> <li>Recall the number of minutes in an hour and the number of hours in a day.</li> </ul> |

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| <b>Vocabulary</b>   |   |
| <p>before and after, next, first, today, yesterday, tomorrow, morning, afternoon, evening hour half past of before and after, next, first, today, yesterday, hour minute second</p> | <p>digital, analogue, quarter past, quarter to, 5 past, 5 to.</p> |

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| <b>GEOMETRY - SHAPE</b> |  |
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| <b>Year 1</b>  | <b>Year 2</b>   |
| <ul style="list-style-type: none"> <li>Recognise and name common 2-D shapes including rectangles, squares, circles and triangles.</li> <li>Recognise and name common 3-D shapes including: cubes, cuboids, pyramids and spheres.</li> <li>Recognise the common 2-D and 3-D shapes in different orientations.</li> <li>Recognise the similarities and differences between common 2-D and 3-D shapes.</li> </ul> | <ul style="list-style-type: none"> <li>Identify and describe the properties of 2-D shapes, including the number of sides and vertical/horizontal lines of symmetry.</li> <li>Identify and describe the properties of 3-D shapes including the number of edges, vertices and faces.</li> <li>Identify 2-D shapes on the surface of 3-D shapes.</li> <li>Compare and sort common 2-D and 3-D shapes and everyday objects.</li> <li>Read shape names (suitable for their word reading and spelling).</li> <li>Draw lines and shapes using rulers.</li> </ul> |

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| <b>Vocabulary</b>   |  |
| <p>Line, straight, curved, rectangle, square, circle, triangle, oval, star, cube, cuboid, pyramid, sphere, side, corners, face, edges, vertex, vertices</p> | <p>Surface, vertical/horizontal symmetry. Size, bigger, larger, smaller, symmetrical, line of symmetry, fold, match, mirror line, reflection, pattern, repeating pattern</p> |

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| <b>GEOMETRY – POSITION &amp; DIRECTION</b> |  |
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| <b>Year 1</b>   | <b>Year 2</b>   |
| <ul style="list-style-type: none"> <li>Describe position and movement including language of whole, half, quarter</li> </ul> | <ul style="list-style-type: none"> <li>Describe position and movement including language of whole, half, quarter and</li> </ul> |

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| <p>and three-quarter turns. Make connections between turns and movement on a clockface.</p> <ul style="list-style-type: none"> <li>Use language of left, right, top, bottom, on top of, in front of, above, between, around, near, close, far, up, down, forwards, backwards, inside and outside.</li> </ul> | <p>three-quarter turns. Make connections between turns and movement on a clockface.</p> <ul style="list-style-type: none"> <li>Use language of left, right, top, bottom, on top of, in front of, above, between, around, near, close, far, up, down, forwards, backwards, inside and outside.</li> </ul> |
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| <b>Vocabulary</b> |  |
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| <p>Whole turn, half turn, quarter turn, three quarter turn, clockwise, anticlockwise, right, left, top, bottom, on top, in front, above, between around, near close, far, down, forwards, backwards, inside, outside</p> | <p>North, south, east, west, sequence, Geometry (position and direction) Rotation, clockwise, anticlockwise, straight line, ninety-degree turn, right angle</p> |
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| <b>STATISTICS</b> |  |
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| <b>Year 1</b> | <b>Year 2</b>   |
|               | <ul style="list-style-type: none"> <li>Read and interpret simple pictograms, tally charts, block diagrams and simple tables</li> <li>Understand how to read a given key</li> <li>Construct simple pictograms, tally charts, block diagrams and simple tables.</li> <li>Ask and answer simple questions by counting the number of objects in each category and sort categories by quantity.</li> <li>Ask and answer questions about totalling and comparing categorical data.</li> </ul> |

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| <b>Vocabulary</b> |  |
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|  | <p>count, sort, tally, vote, graph, block graph, pictogram, represent, group set, same, different, list, table, title, most popular, least popular, most common, least common.</p> |
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