



SANDRINGHAM INFANT AND NURSERY ACADEMY

Progression of Skills

Mathematics



Number	
Nursery	Reception
<p><u>22- 36 months</u></p> <ul style="list-style-type: none">• Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.• Recites some number names in sequence.• Creates and experiments with symbols and marks representing ideas of number.• Begins to make comparisons between quantities.• Uses some language of quantities, such as 'more' and 'a lot'.• Knows that a group of things changes in quantity when something is added or taken away. <p><u>30-50 months</u></p> <ul style="list-style-type: none">• Uses some number names and number language spontaneously.• Uses some number names accurately in play.• Recites numbers in order to 10• Knows that numbers identify how many objects are in a set.• Beginning to represent numbers using fingers, marks on paper or pictures.• Sometimes matches numeral and quantity correctly.• Shows curiosity about numbers by offering comments or asking questions.• Compares two groups of objects, saying when they have the same number.• Shows an interest in number problems.• Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.• Shows an interest in numerals in the environment.• Shows an interest in representing numbers.• Realises not only objects, but anything can be counted, including steps, claps or jumps. <p><u>40 – 60 months</u></p> <ul style="list-style-type: none">• Recognise some numerals of personal significance and numerals 1 to 5.• Counts up to three or four objects by saying one number name for each item.	<p><u>Early Learning Goal</u></p> <ul style="list-style-type: none">• Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.• Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.• They solve problems, including doubling, halving and sharing.

<ul style="list-style-type: none"> • Counts objects to 10 and beginning to count beyond 10. • Counts out up to six objects from a larger group. • Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. • Counts an irregular arrangement of up to ten objects. • Estimates how many objects they can see and checks by counting them. • Uses the language of 'more' and 'fewer' to compare two sets of objects. • Finds the total numbers of items in two groups by counting all of them • Says the number that is one more than a given number. • Finds one more or one less from a group of up to five objects, then ten objects. • In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting • Records, using marks that they can interpret and explain. • Begins to identify own mathematical problems based on own interests and fascinations. 	
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Shape, Space and Measure	
Nursery	Reception
<p><u>22 – 36 months</u></p> <ul style="list-style-type: none"> • Notices simple shapes and patterns in pictures. • Beginning to categorise objects according to properties such as shape or size. • Begins to use the language of size. • Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon'. • Anticipates specific time-based events such as mealtimes or home time. <p><u>30 – 50 months</u></p> <ul style="list-style-type: none"> • Shows an interest in shape and space by playing with shapes or making arrangements with objects. • Shows awareness of similarities of shapes in the environment. • Uses positional language. • Shows interest in shape by sustained construction activity or by talking about shapes or arrangements. • Shows interest in shapes in the environment. • Uses shapes appropriately for tasks. • Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall'. 	<p><u>40 – 60 months</u></p> <ul style="list-style-type: none"> • Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. • Selects a particular named shape. • Can describe their relative position such as 'behind' or 'next to'. • Orders two or three items by length or height. • Orders two items by weight or capacity. • Uses familiar objects and common shapes to create and recreate patterns and build models. • Uses everyday language related to time. • Beginning to use everyday language related to money. • Orders and sequences familiar events. • Measures short periods of time in simple ways. <p><u>Early Learning Goal</u></p> <ul style="list-style-type: none"> • Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. • They recognise, create and describe patterns. <p>They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</p>

Counting	
Year 1	Year 2
<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward.
Vocabulary	
Digit, number track, place value, sort, less/fewer, more/greater, more than less than, equal to, compare, numeral, part whole, tens frame, number line	Digit, number track, place value, sort, less/fewer, more/greater, more than less than, equal to, compare, numeral, part whole, tens frame, number line, representation, less than, equal, greater than partition, strategy, tens, ones, place value, counters, diennes (base 10)

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

Identifying, Representing and Estimating	
Year 1	Year 2
<ul style="list-style-type: none"> Identify and represent numbers using objects and pictorial representations including the number line. Read and write numbers from 1 to 20 in numerals and words. 	<ul style="list-style-type: none"> 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.
Vocabulary	
Digit, number track, place value, sort, less/fewer, more/greater, more than, less than, equal to, compare, numeral, part whole, guess, predict	Digit, number track, place value, sort, less/fewer, more/greater, more than, less than, equal to, compare, numeral, part whole, guess, predict, estimate, represent, calculation

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

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

Multiplication and Division	
Year 1	Year 2
<ul style="list-style-type: none"> Count in multiples of 2's, 5's and 10's – identifying patterns. 	<ul style="list-style-type: none"> Recall multiplication and division facts for the 2,5 and 10 multiplication tables. Recall and recognise odd and even numbers – linking them to the multiplication tables. Calculate mathematical statements for multiplication and division. within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs. Understand/ show that the multiplication of two numbers is commutative and that division by another is no. 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.
Vocabulary	
<p>groups of, lots of, times, array, altogether, multiply, count</p> <p>share, share equally, one each, two each..., group, groups of, lots of</p>	<p>groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups of, times as big as, once, twice, three times...</p> <p>share, share equally, one each, two each..., group, groups of, lots of, divide, divided by, divided into, division, grouping, number line, left, left over</p>

Fractions	
Year 1	Year 2
<ul style="list-style-type: none"> 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 being one of four equal parts of an object, shape or quantity. 	<ul style="list-style-type: none"> Recognise, find, name and write fractions – $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ ($\frac{1}{2}$) and $\frac{3}{4}$ and apply to lengths, shapes, objects or quantities. Write simple fractions. For example - $\frac{1}{2}$ of 6 = 3. Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.
Vocabulary	
Whole, half, share, 2 equal parts, quarter, 4 equal parts.	Whole, half, share, 2 equal parts, quarter, 4 equal parts Parts, one third, two quarters, three quarters, equivalence

Measurement	
Year 1	Year 2
<ul style="list-style-type: none"> Measure and begin to record lengths/height, mass/weight, capacity/volume, time (seconds, minutes and hours). Compare, describe and solve practical problems (including using the correct vocabulary) for: Length/height (long/short, taller/shorter, double/half) Mass/weight (heavy/light, heavier, lighter) Capacity/volume (full/empty, more than, less than, half, full, quarter) 	<ul style="list-style-type: none"> Compare and order lengths, mass, volume/capacity and record the results using equality symbols. 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.
Vocabulary	
Length/height/mass/weight/capacity/volume long/short, taller/shorter, double/half heavy/light, heavier, lighter full/empty, more than, less than, half, full, quarter	Length/height/mass/weight/capacity/volume long/short, taller/shorter, double/half heavy/light, heavier, lighter full/empty, more than, less than, half, full, quarter cm/m g/kg ml/l

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

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

Geometry - Shape	
Year 1	Year 2
<ul style="list-style-type: none"> Recognise and name common 2-D shapes including rectangles, squares, circles and triangles. Recognise and name common 3-D shapes including: cubes, cuboids, pyramids and spheres. Recognise the common 2-D and 3-D shapes in different orientations. Recognise the similarities and differences between common 2-D and 3-D shapes. 	<ul style="list-style-type: none"> Identify and describe the properties of 2-D shapes, including the number of sides and vertical/horizontal lines of symmetry. 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. Compare and sort common 2-D and 3-D shapes and everyday objects. Read shape names (suitable for their word reading and spelling). Draw lines and shapes using rulers.
Vocabulary	
Line, straight, curved, rectangle, square, circle, triangle, oval, star, cube, cuboid, pyramid, sphere, side, corners, face, edges, vertex, vertices	Line, straight, curved, rectangle, square, circle, triangle, oval, star, cube, cuboid, pyramid, sphere, side, corners, face, edges, vertex, vertices, surface, vertical/horizontal symmetry.

Geometry – Position and Direction	
Year 1	Year 2
<ul style="list-style-type: none"> Describe position and movement including language of whole, half, quarter and three-quarter turns. Make connections between turns and movement on a clockface. 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. 	<ul style="list-style-type: none"> Describe position and movement including language of whole, half, quarter and three-quarter turns. Make connections between turns and movement on a clockface. 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.
Vocabulary	
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	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, north, south, east, west, sequence,

Statistics	
	Year 2
	<ul style="list-style-type: none"> Read and interpret simple pictograms, tally charts, block diagrams and simple tables Understand how to read a given key 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 sort categories by quantity. Ask and answer questions about totalling and comparing categorical data.
Vocabulary	
	count, sort, tally, vote, graph, block graph, pictogram, represent, group set, same, different, list, table, title, most popular, least popular, most common, least common.