

Progression in Mathematics Document

Reception objectives have been divided into the topic areas of key stage one. Objectives in bold come from the ELG's and objectives that are not in bold are from Development Matters. Development matters is divided into objectives for 3-4 years and objectives for 4-5 years. The Early Years Curriculum is divided into 2, Number (N) and Number pattern (NP). This has been marked accordingly next to the objectives. Year 1 and 2 statements come from the National Curriculum 2014.

	Reception	Year 1	Year 2
Number	<ul style="list-style-type: none"> Fast recognition of up to three objects without having to count them individually (subitising). (DM 3-4 N) Recite numbers past five. (DM 3-4 N) Say one number for each number in order. 1, 2, 3, 4, 5. (DM 3-4 N) Know the last number reached when counting a small set of objects tells you how many there are in total (the cardinal principle). (DM 3-4 N) Show finger numbers up to five. (DM 3-4 N) Link numerals and amounts, for example, showing the right number of objects to match the numeral up to five. (DM 3-4 N) Experiment with their own symbols and marks as well as numerals. (DM 3-4 N) Solve real world mathematical problems with numbers up to five. (DM 3-4 N) Compare quantities using language more than, fewer than. (DM 3-4 N) Count objects, actions and sounds. (DM 4-5N) Subitise. (DM 4-5 N) Link the number symbol (numeral) with its cardinal number value. (DM 4-5 N) Count beyond ten. – mental starters Compare numbers. (DM 4-5 N) Understand the 'one more than/one less than' relationship between consecutive numbers. (DM 4-5 N) Explore composition of numbers to 10. (DM 4-5 N) Verbally count beyond 20, recognising the pattern of the counting system. (ELG NP) 	<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 2s, 5s and 10s 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 	<ul style="list-style-type: none"> Count in steps of 2, 3, and 5 from zero, and in tens from any number, BOTH forwards and backwards Recognise the place value of each digit in a two-digit number (tens and ones) Identify, represent and estimate numbers Compare and order numbers from 0 up to 100; use < (less than) > (more than) and = (equals) signs Read and write numbers up to at least 100 in numerals AND in words Use place value and number facts to solve problems

	<ul style="list-style-type: none"> • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. (ELG NP) • Have a deep understanding of number to 10, including the composition of each number. (ELG N) • Subitise up to 5. (ELG N) 		
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	Reception	Year 1	Year 2
Addition and Subtraction	<ul style="list-style-type: none"> • Automatically recall number bonds for numbers 0-10. (DM 4-5 N) • 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. (ELG N) 	<ul style="list-style-type: none"> • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) • Represent and use number bonds and related subtraction facts within 20 e.g. $5 + 2 = 7$, $7 - 2 = 5$, $7 - 5 = 2$ • Add and subtract one-digit and two-digit numbers to 20, including 0 • Solve one-step problems that involve addition & subtraction using concrete objects & pictorial representations, & missing number problems such as $7 = ? - 9$ 	<ul style="list-style-type: none"> • Use concrete objects and pictorial representations to solve problems, mentally and on paper, with addition and subtraction including money and measures • Read and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 e.g. $1 + 6 = 7$ so $10 + 60 = 70$ or $70 - 10 = 60$ and $7 - 1 = 6$ • Add and subtract numbers using concrete objects, pictorial representations, and mentally including adding or subtracting one or ten to/from a two-digit number, adding and subtracting two two-digit numbers and adding three one-digit numbers • Know and show that addition of numbers can be done in any order and that 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 number problems

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Multiplication and Division	<ul style="list-style-type: none"> • Recall double facts to 10. (slightly amended phrase from ELG N) • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. (ELG NP) 	<ul style="list-style-type: none"> • Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with support of the support of an adult 	<ul style="list-style-type: none"> • 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 (x) and division (÷) and equals (=) signs • Show that multiplication of two numbers can be done in any order 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 context e.g. money and measures
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	Reception	Year 1	Year 2
Fractions	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Recognise, find and name half as 1 of 2 equal parts of an object, shape or quantity • Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity 	<ul style="list-style-type: none"> • Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of object or a quantity • Write simple fractions, for example $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{1}{2}$ and $\frac{2}{4}$

	Reception	Year 1	Year 2
Measurement	<ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, weight and capacity. (DM 3-4 NP) • Begin to describe a sequence of events, real or fictional, using words such as 'first', then...' (DM 3-4 NP) • Compare length, weight and capacity. (DM 4-5 NP) 	Compare, describe and solve practical problems for: <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Choose and use appropriate standard units to estimate 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 =

		<p>Measure and begin to record the following:</p> <ul style="list-style-type: none"> • 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 such as after, next, first, today, yesterday, tomorrow, morning, afternoon, evening <p>Recognise and use language relating to dates, including days of the week, weeks, months and years</p> <p>Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</p>	<ul style="list-style-type: none"> • 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
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	Reception	Year 1	Year 2
Geometry	<ul style="list-style-type: none"> • Talk about and explore 2d and 3d shapes, for example, circles, triangles, rectangles and cuboids using informal and formal mathematical language, sides, corners, straight, flat, round. (DM 3-4 NP) • Understand position through words alone – for example, “The bag is under the table. ” – with no pointing. (DM 3-4 NP) • Describe a familiar route. (DM 3-4 NP) • Discuss routes and locations using words like ‘in front of’ and ‘behind’. (DM 3-4 NP) • Select shapes appropriately: flat surfaces for building a triangular prism for a roof, etc. (DM 3-4 NP) • Combine shapes to make new ones – an arch, a bigger triangle, etc. (DM 3-4 NP) • Talk about and identifies the patterns around them. For example: stripes on clothes designs on rugs and wallpaper. Use informal 	<ul style="list-style-type: none"> • Recognise and name common 2-D and 3-D shapes, including <ul style="list-style-type: none"> - 2-D shapes e.g. oblong, square, circle, triangle - 3-D shapes e.g. cube, cuboid, pyramid, sphere • Describe position, direction and movement, including whole, half, quarter and three-quarter turns e.g. describing a route using language such as forward, backward, left and right 	<ul style="list-style-type: none"> • 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 • 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,

	<p>language like 'pointy', 'spotty', 'blobs', etc. (DM 3-4 NP)</p> <ul style="list-style-type: none"> • Extend and create ABAB patterns – stick, leaf, stick leaf. (DM 3-4 NP) • Notice and correct an error in a repeating pattern. (DM 3-4 NP) • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. (DM 4-5 NP) • Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can. (DM 4-5 NP) • Continue, copy and create repeating patterns. (DM 4-5 NP) 		<p>half and three-quarter turns (clockwise and anti-clockwise)</p>
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	Reception	Year 1	Year 2
Statistics	<ul style="list-style-type: none"> • 		<ul style="list-style-type: none"> • Interpret and construct simple pictograms, tally charts, block diagrams and 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