



# Barrowcliff School

# Skills Progression Grid

## Maths

(taken from the Ready-to-Progress criteria for Years 1-6 'Mathematics guidance: key stages 1 and 2 Non-statutory guidance for the national curriculum in England')

**Please note** that this document does not address the whole of the primary Maths curriculum, but only the areas that have been identified as a priority. It is still a statutory requirement that the whole of the curriculum is taught. For a more detailed breakdown please look at the Maths No Problem scheme of work for your child's year group which can be found in the Maths section on the school website.

**All highlighted words/symbols can be found in the 'Primary Maths Dictionary for Children and Parents' in the Maths section on the school website.**

| <b>Nursery</b>  | <b>3-4 years</b>  |
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| <p><i>Taken from<br/>'Development<br/>Matters'<br/>Non-Statutory<br/>Curriculum<br/>Guidance for the<br/>Early Years<br/>Foundation Stage</i></p> | <ul style="list-style-type: none"> <li>• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</li> <li>• Recite numbers past 5.</li> <li>• Say one number 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> <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> <li>• Solve real world mathematical problems with numbers up to 5.</li> <li>• Compare quantities using language: 'more than', 'fewer than'.</li> <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>• 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> <li>• Make comparisons between objects relating to size, length, weight and capacity.</li> <li>• Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Combine shapes to make new ones - an arch, a bigger triangle etc.</li> <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', 'blobs' etc.</li> <li>• Extend and create ABAB patterns – stick, leaf, stick, leaf.</li> <li>• Notice and correct an error in a repeating pattern.</li> <li>• Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</li> </ul> |

| Reception     | Number  |  |   | Numerical Patterns   |  |  |
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|               | Children at the expected level of development will: <ul style="list-style-type: none"> <li>• Have a deep understanding of number to 10, including the composition of each number;</li> <li>• Subitise (recognise quantities without counting) up to 5;</li> <li>• 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.</li> </ul> |  |   | Children at the expected level of development will: <ul style="list-style-type: none"> <li>• Verbally count beyond 20, recognising the pattern of the counting system;</li> <li>• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;</li> <li>• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</li> </ul> |  |  |
| Years 1-6     | Number and Place Value  | Number Facts   | Addition and Subtraction  | Multiplication and Division  | Fractions  | Geometry   |
| <b>Year 1</b> | Count within 100, forwards and backwards, starting with any number.<br><br>Reason about the location of numbers to 20 within the linear number system, including comparing using $<>$ and =   | Develop fluency in addition and subtraction facts within 10.<br><br>Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. | Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.<br><br>Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and | 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.   | Recognise, find and name a half as one of two equal parts of an object, shape or quantity.<br><br>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. | Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.<br><br>Compose 2D and 3D shapes from smaller |

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|               |  |   | equations to real-life contexts.  |   |   | shapes to match an example, including manipulating shapes to place them in particular orientations.  |
| <b>Year 2</b> | <p>Recognise the <b>place value</b> of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard <b>partitioning</b>.</p> <p>Reason about the location of any two-digit number in the linear number system, including identifying the previous and next <b>multiple</b> of 10.</p> | Secure fluency in addition and subtraction facts within 10, through continued practice. | <p>Add and subtract across 10.</p> <p>Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?".</p> <p>Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a twodigit number.</p> <p>Add and subtract within 100 by applying related</p> | <p>Recognise <b>repeated addition</b> contexts, representing them with multiplication <b>equations</b> and calculating the <b>product</b>, within the 2, 5 and 10 multiplication tables.</p> <p>Relate grouping problems where the number of groups is unknown to multiplication <b>equations</b> with a missing <b>factor</b>, and to division <b>equations</b>.</p> | <p>Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity.</p> <p>Write simple fractions for example, <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</p> | Use precise language to describe the properties of <b>2D and 3D shapes</b> , and compare shapes by reasoning about similarities and differences in properties. |

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|               |  |  | one-digit addition and subtraction facts: add and subtract any 2 twodigit numbers.   |  |   |  |
| <b>Year 3</b> | <p>Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.</p> <p>Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.</p> <p>Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.</p> <p>Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</p> | <p>Secure fluency in addition and subtraction facts that bridge 10, through continued practice.</p> <p>Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.</p> <p>Apply place-value knowledge to known additive and multiplicative number facts</p> | <p>Calculate complements to 100 (<math>48+52=100</math>)</p> <p>Add and subtract up to three-digit numbers using column methods.</p> <p>Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-whole structure. Understand and use the commutative property of addition, and understand the</p> | <p>Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.</p> | <p>Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.</p> <p>Find unit fractions of quantities using known division facts (multiplication tables fluency).</p> <p>Reason about the location of any fraction within 1 in the linear number system</p> <p>Add and subtract fractions with the same</p> | <p>Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.</p> <p>Draw polygons by joining marked points, and identify parallel and perpendicular sides.</p> |

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|               |  | (scaling facts by 10).  | related property for subtraction. |  | denominator, within 1.  |   |
| <b>Year 4</b> | <p>Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit <b>multiples</b> of 100.</p> <p>Recognise the <b>place value</b> of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard <b>partitioning</b>.</p> <p>Reason about the location of any four-digit number in the linear number system, including identifying the previous and next <b>multiple</b> of 1,000 and 100, and <b>rounding</b> to the nearest of each.</p> <p>Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/<b>number lines</b> marked in <b>multiples</b> of 1,000 with 2, 4, 5 and 10 equal parts.</p> | <p>Recall multiplication and division facts up to 12x12, and recognise <b>products</b> in multiplication tables as <b>multiples</b> of the corresponding number.</p> <p>Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.</p> <p>Apply <b>place-value</b> knowledge to known additive and multiplicative number facts</p> |                                   | <p>Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.</p> <p>Manipulate multiplication and division <b>equations</b>, and understand and apply the <b>commutative</b> property of multiplication.</p> <p>Understand and apply the <b>distributive</b></p> | <p>Reason about the location of mixed numbers in the linear number system.</p> <p>Convert mixed numbers to improper fractions and vice versa.</p> <p>Add and subtract improper and mixed fractions with the same <b>denominator</b>, including <b>bridging</b> whole numbers.</p> | <p>Draw <b>polygons</b>, specified by <b>coordinates</b> in the first quadrant, and <b>translate</b> within the first quadrant.</p> <p>Identify regular <b>polygons</b>, including <b>equilateral triangles</b> and squares, as those in which the side-lengths are equal and the angles are equal. Find the <b>perimeter</b> of regular and irregular polygons.</p> <p>Identify line <b>symmetry</b> in <b>2D shapes</b></p> |

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|               |   | (scaling facts by 100)  |  | property of multiplication.   |   | presented in different orientations. <b>Reflect</b> shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.   |
| <b>Year 5</b> | <p>Know that 10 tenths are <b>equivalent</b> to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.</p> <p>Recognise the <b>place value</b> of each digit in numbers with up to 2 <b>decimal</b> places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard <b>partitioning</b>.</p> <p>Reason about the location of any number with up to 2</p> | <p>Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.</p> <p>Apply <b>place-value</b> knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).</p> |  | <p>Multiply and divide numbers by 10 and 100; understand this as <b>equivalent</b> to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.</p> <p>Find <b>factors</b> and <b>multiples</b> of positive whole numbers, including common factors and common multiples, and express a given</p> | <p>Find <b>non-unit fractions</b> of quantities.</p> <p>Find <b>equivalent</b> fractions and understand that they have the same value and the same position in the linear number system.</p> <p>Recall decimal fraction equivalents for a half, a quarter, a fifth and a tenth, and for <b>multiples</b> of</p> | <p>Compare <b>angles</b>, estimate and measure angles in <b>degrees</b> (<math>^{\circ}</math>) and draw angles of a given size</p> <p>Compare <b>areas</b> and calculate the area of rectangles (including squares) using <b>standard units</b>.</p> |

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|               | <p><b>decimals</b> places in the linear number system, including identifying the previous and next <b>multiple</b> of 1 and 0.1 and <b>rounding</b> to the nearest of each.</p> <p>Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/<b>number lines</b> marked in units of 1 with 2, 4, 5 and 10 equal parts.</p> <p><b>Convert</b> between units of measure, including using common decimals and fractions.</p> |  |   | <p>number as a <b>product</b> of 2 or 3 <b>factors</b>.</p> <p>Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.</p> <p>Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.</p> | <p>these proper fractions.</p>   |  |
| <b>Year 6</b> | <p>Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).</p>   |  | <p>Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships)</p> | <p>For year 6, Multiplication and Division ready-toprogress criteria are combined with Addition and Subtraction</p>   | <p>Recognise when fractions can be <b>simplified</b>, and use common factors to simplify fractions.</p> <p>Express fractions in a common</p> | <p>Draw, compose, and decompose shapes according to given properties, including dimensions, <b>angles</b> and <b>area</b>, and solve</p> |

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|  | <p>Recognise the <b>place value</b> of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard <b>partitioning</b>.</p> <p>Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and <b>round</b> numbers, as appropriate, including in contexts.</p> <p>Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/<b>number lines</b> with labelled intervals divided into 2, 4, 5 and 10 equal parts.</p> |  | <p>restricted to multiplication by a whole number).</p> <p>Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, <b>inverse relationships</b>, and <b>place-value</b> understanding.</p> <p>Solve problems involving <b>ratio</b> relationships.</p> <p>Solve problems with 2 unknowns.</p> | <p>ready-to-progress criteria.</p> | <p>denomination and use this to compare fractions that are similar in value.</p> <p>Compare fractions with different <b>denominators</b>, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.</p> | <p>related problems.</p> |
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