

HfL Assessment Criteria for Phase C Steps 1/2/3 (based on curriculum expectations for Year 5)

Maths – Number

Understanding the number system	Calculating
<p><b>Fluency Focus:</b></p> <p><b>Numbers up to 1 million (whole numbers and decimal with up to 3 decimal places) through a wide variety of models and representations</b></p> <p><b>Number and place value</b></p> <ul style="list-style-type: none"> <li>understands and applies the knowledge of place value e.g. reads, writes, orders, compares, estimates, multiplies and divides numbers by 10, 100 and 1000 up to 1 000 000 and to 3 decimal places and as fractions (5N2, 5N3a, 5F6a, 5F8)</li> <li>rounds decimals with two decimal places to the nearest whole number and to one decimal place (5F7) and any whole number up to 1,000,000 to the nearest 10, 100, 1000, 10,000, and 100,000 (5N4)</li> <li>counts fluently forwards and backwards to include: <ul style="list-style-type: none"> <li>powers of 10 from any given number up to 1,000,000 (5N1)</li> <li>including through zero and interprets negative numbers in context (5N5)</li> </ul> </li> <li>reads Roman numerals to 1000 (M) and recognises years written in Roman numerals (5N3b)</li> <li>recognises and converts mixed numbers, improper fractions (5F2a) and recognises and uses thousandths and relates to tenths, hundredths and decimal equivalents (5F6b)</li> <li>compares and orders fractions whose denominators are all multiples of the same number (5F3)</li> <li>identifies equivalent fractions of a given fraction represented visually (5F2b)</li> <li>recognises and shows approximate proportions of a whole and use unit and non-unit fractions, decimals and percentages to describe these, e.g. recognises simple equivalence between fractions, decimals and percentages of any number; <math>\frac{1}{2}</math> <math>\frac{1}{4}</math> <math>\frac{1}{5}</math> <math>\frac{2}{5}</math> <math>\frac{4}{5}</math> and those with a denominator of a multiple of 10 or 25 (5F11, 5F12)</li> <li>solves number problems and practical problems within the context of the fluency focus (5N6)</li> </ul>	<p><b>Arithmetical laws and relationships</b></p> <ul style="list-style-type: none"> <li>uses the commutative, associative and distributive ‘rules’ when solving calculations in the four operations and other mathematical domains e.g. <ul style="list-style-type: none"> <li>distributivity can be expressed as <math>a(b+c) = ab + ac</math></li> <li>construct equivalence statements (<math>3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10</math>)</li> <li>finding the volume of a cuboid</li> </ul> </li> <li>recognises, describes using correct vocabulary, and uses number patterns and relationships to establish e.g. <ul style="list-style-type: none"> <li>multiples, all factor pairs for a given number and common factors for two numbers (5C5a)</li> <li>prime factors and composite (non-prime) numbers to 100 (recall primes to 19) (5C5b, 5C5c)</li> <li>square and cube numbers (and uses notation and recall all square numbers to 144) (5C5d)</li> </ul> </li> </ul> <p><b>Mental fluency</b></p> <ul style="list-style-type: none"> <li>justifies solutions and determines in the context of the problem levels of accuracy using estimation, rounding and use of inverse operation (5C3)</li> <li>uses a range of mental methods of addition and subtraction within the fluency focus e.g. decimal complements to 1 (5C1)</li> <li>multiplies and divides numbers mentally using known facts 5C6a and uses derived facts e.g. <math>2.3 \times 4 = 9.2</math></li> <li>multiplies and divides whole numbers and those involving decimals by 10, 100 and 1000 (5C6b)</li> </ul> <p><b>Written fluency</b></p> <ul style="list-style-type: none"> <li>uses formal written columnar methods of addition and subtraction (5C2) within the fluency focus and reasons why they are appropriate</li> <li>multiplies numbers with up to four digits by a one or two digit number using a formal written method, including long multiplication for two digit numbers (5C7a)</li> <li>divides numbers with up to four digits by a one digit number using the formal written method of short division and interprets remainders appropriately for the context (5C7b)</li> </ul> <p><b>Fractions, decimals and percentages</b></p> <ul style="list-style-type: none"> <li>adds and subtracts fractions whose denominators are multiples of the same number (5F4)</li> <li>multiplies proper fractions and mixed numbers by whole numbers supported by materials and diagrams (5F5)</li> </ul> <p><b>Solving numerical problems</b> (using a range of mental and written methods across routine and non-routine problems)</p> <ul style="list-style-type: none"> <li>solves numerical problems within the fluency focus and through a range of contexts including understanding the meaning of the = sign (5C8b) e.g. <ul style="list-style-type: none"> <li>addition and subtraction multi-step problems in contexts deciding which operation to use and why (5C4)</li> <li>using knowledge of factors, multiples, squares and cubes (5C8a)</li> <li>scaling by simple fractions and problems involving simple rates (5C8c)</li> <li>multiplying and dividing by powers of 10 in scale drawings</li> <li>using all four operations to balance equations (<math>33 = 5 \times a</math>)</li> </ul> </li> </ul> <p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>begins to write equations to express situations</li> <li>locates points and solves problems in the first quadrant</li> </ul>

Measurement	Geometry
<p><b>Metric / imperial measures</b></p> <ul style="list-style-type: none"> <li>converts between different units of metric units of measure for length, capacity and mass, e.g. <math>1.2\text{ kg} = 1200\text{ g}</math>; <i>how many 200 ml cups can be filled from a 2 litre bottle?</i>; <i>write 605cm in metres</i> (5M5)</li> <li>understands and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints (5M6)</li> </ul> <p><b>Perimeter, Area, Volume</b></p> <ul style="list-style-type: none"> <li>measures and calculates the perimeter of composite rectilinear shapes in centimetres and metres (5M7a)</li> <li><i>calculates the perimeter of rectangles and related composite shapes including using the relations of perimeter or area to find unknown lengths</i></li> <li><i>missing measure questions can be expressed algebraically e.g. <math>4 + 2b = 20</math> for a rectangle of sides 2 cm and b cm and perimeter of 20 cm</i></li> <li>calculates and compares the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes (5M7b)</li> <li>estimates volume, e.g.: <i>using 1cm<sup>3</sup> blocks to build cuboids (including cubes) and capacity (e.g. using water)</i> (5M8)</li> </ul> <p><b>Chronology</b></p> <ul style="list-style-type: none"> <li>calculates the duration of an event using appropriate units of time, e.g. <i>'a film starts at 6:45pm and finishes at 8:05pm. How long did it last?'</i> (5M4)                     <ul style="list-style-type: none"> <li>calculates time durations that bridge the hour</li> </ul> </li> <li>reads and interprets timetables (5S1)</li> </ul> <p><b>Solve problems</b></p> <ul style="list-style-type: none"> <li>solves problems involving converting between units of time (5M4)</li> <li>uses all four operations to solve problems involving measure (a: money; b: length; c: mass / weight; d: capacity / volume) using decimal notation, including scaling (5M9)</li> </ul>	<p><b>Properties of shape</b></p> <ul style="list-style-type: none"> <li>uses the properties of rectangles to deduce related facts and find missing lengths and angles (5G2a)</li> <li>distinguishes between regular and irregular polygons based on reasoning about equal sides and angles (5G2b)                     <ul style="list-style-type: none"> <li><i>uses conventional markings for parallel lines and right angles</i></li> </ul> </li> <li>identifies 3D shapes including cubes and other cuboids, from 2D representations (5G3b)</li> <li>knows angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (5G4a)</li> <li>identifies:                     <ul style="list-style-type: none"> <li>angles at a point and one whole turn (total 360°)</li> <li>angles at a point on a straight line and ½ a turn (total 180°)</li> <li>other multiples of 90° (5G4b)</li> </ul> </li> <li>draws given angles and measure them in degrees(°) (5G4c)</li> <li>uses the term diagonal and makes conjectures about the angles formed between sides, and between diagonals and parallel sides and other properties of quadrilaterals</li> </ul> <p><b>Position and direction</b></p> <ul style="list-style-type: none"> <li>identifies, describes and represents the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed (5P2)                     <ul style="list-style-type: none"> <li>translates shapes horizontally or vertically</li> <li>uses a grid and co-ordinates in the first quadrant to plot the reflection in a mirror line presented in lines that are parallel to the axes</li> <li>begins to use the distance of vertices from the mirror line to reflect shapes more accurately</li> </ul> </li> </ul>

**Statistics**

<p><b>Processing, representing and interpreting data</b></p> <ul style="list-style-type: none"> <li>completes, reads and interprets information in tables, including timetables (5S1)</li> <li>solves comparison, sum and difference problems using information presented in a line graph (5S2)                     <ul style="list-style-type: none"> <li>collects, represents and interprets continuous data</li> <li>decides upon an appropriate scale for a graph, e.g. labelled divisions representing 2, 5, 10, 100</li> <li>reads between the labelled divisions, e.g. reads 17 on a scale labelled in fives</li> </ul> </li> </ul>
--

Evidence of none or just a few of these skills – refer to Phase B sheets	<b>Entering</b> (some of these aspects secure, or occasional evidence across most skills) = <b>B6</b> (equivalent to C0)	<b>Developing</b> (many of these aspects secure, or more frequent evidence across most skills) = <b>C1</b>	<b>Securing</b> (most of these aspects secure most of the time) = <b>C2</b>	<b>Deepening</b> (almost all of these aspects secure) = <b>C3</b>
--	--	--	---	---

Please refer to the introduction to this document for further guidance about making judgements for tracking progress.