



Year 6

Numeracy Support Strands

Curriculum Strand	Learning Objective Curriculum Sub-strand	Year 5 Support Strands	Year 4 Support Strands
<p>NUMBER AND PLACE VALUE</p>	<ul style="list-style-type: none"> ✓ 6N2 - Read, write, order and compare numbers up to 10 000 000 ✓ 6N3 - Determine the value of each digit in numbers up to 10 000 000 ✓ 6N4 - Round any whole number to a required degree of accuracy ✓ 6N5 - Use negative numbers in context, and calculate intervals across zero ✓ 6N6 - Solve number and practical problems that involve 6N2 – 6N5 	<ul style="list-style-type: none"> ✓ 5N1 - Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 ✓ 5N2 - Read, write, order and compare numbers to at least 1 000 000 ✓ 5N3a - Determine the value of each digit in numbers up to 1 000 000 ✓ 5N3b – Read Roman numerals to 1000 (M) and recognise years written in Roman numerals ✓ 5N4 - Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 ✓ 5N5 - Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero ✓ 5N6 - Solve number problems and practical problems that involve 5N1 – 5N5 	<ul style="list-style-type: none"> ✓ 4N1 - Count in multiples of 6, 7, 9, 25 and 1000 ✓ 4N2a - Order and compare numbers beyond 1000 ✓ 4N2b- Find 1000 more or less than a given number ✓ 4N3a - Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) ✓ 4N3b - Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. ✓ 4N4a - Identify, represent and estimate numbers using different representations ✓ 4N4b - Round any number to the nearest 10, 100 or 1000 ✓ 4N5 - Count backwards through zero to include negative numbers ✓ 4N6 - Solve number and practical problems that involve all of the above and with increasingly large positive numbers
<p>CALCULATIONS (+ and -)</p>	<ul style="list-style-type: none"> ✓ 6C4 - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 	<ul style="list-style-type: none"> ✓ 5C1 - Add and subtract numbers mentally with increasingly large numbers ✓ 5C2 - Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ✓ 5C3 - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 	<ul style="list-style-type: none"> ✓ 4C2 - Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate ✓ 4C3 - Estimate and use inverse operations to check answers to a calculation



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<p>CALCULATIONS (x and ÷)</p>	<ul style="list-style-type: none"> ✓ 6C5 - Identify common factors, common multiples and prime numbers ✓ 6C7a - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication ✓ 6C7b - Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context ✓ 6C7c - Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context 	<ul style="list-style-type: none"> ✓ 5C5a - Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers ✓ 5C5b – Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers ✓ 5C5c – Establish whether a number up to 100 is prime and recall prime numbers up to 19 ✓ 5C5d – Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) ✓ 5C6a - Multiply and divide numbers mentally drawing upon known facts ✓ 5C6b - Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 ✓ 5C7a - Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for two-digit numbers ✓ 5C7b - Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context 	<ul style="list-style-type: none"> ✓ 4C6a - Recall multiplication and division facts for multiplication tables up to 12×12 ✓ 4C6b - Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers ✓ 4C6c - Recognise and use factor pairs and commutativity in mental calculations ✓ 4C7 - Multiply two-digit and three-digit numbers by a one-digit number using formal written layout
<p>PROBLEM SOLVING</p>	<ul style="list-style-type: none"> ✓ 6C3 - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. ✓ 6C6 - Perform mental calculations, including with mixed operations and large numbers ✓ 6C8 - Solve problems involving addition, subtraction, multiplication and division ✓ 6C9 - Use their knowledge of the order of operations to carry out calculations involving the four operations 	<ul style="list-style-type: none"> ✓ 5C4 - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why ✓ 5C8a - Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cube ✓ 5C8b - Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign ✓ 5C8c – Solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates 	<ul style="list-style-type: none"> ✓ 4C4 - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why ✓ 4C8 - Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling and harder correspondence problems such as n objects are connected to m objects
<p>FRACTIONS, DECIMALS AND PERCENTAGES ...</p>	<ul style="list-style-type: none"> ✓ 6F2 - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination ✓ 6F3 - Compare and order fractions, including fractions >1 	<ul style="list-style-type: none"> ✓ 5F2a - Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 11/5$] 	<ul style="list-style-type: none"> ✓ 4F1 - Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten ✓ 4F2 - Recognise and show, using diagrams, families of common equivalent fractions



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<p>FRACTIONS, DECIMALS AND PERCENTAGES</p>	<ul style="list-style-type: none"> ✓ - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions ✓ 6F5a - Multiply simple pairs of proper fractions, writing the answer in its simplest form [e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] ✓ 6F5b - Divide proper fractions by whole numbers [e.g. $\frac{1}{2} \div 2 = \frac{1}{4}$] ✓ 6F6 - Associate a fraction with division and calculate decimal fraction equivalents [e.g. 0.375] for a simple fraction [e.g. $\frac{3}{8}$] ✓ 6F9a - Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places ✓ 6F9b - Multiply one-digit numbers with up to two decimal places by whole numbers ✓ 6F9c - Use written division methods in cases where the answer has up to two decimal places ✓ 6F10 - Solve problems which require answers to be rounded to specified degrees of accuracy. ✓ 6F11 - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. 	<ul style="list-style-type: none"> ✓ 5F2b- Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] ✓ 5F3 - Compare and order fractions whose denominators are all multiples of the same number ✓ 5F4 - Add and subtract fractions with the same denominator and denominators that are multiples of the same number ✓ 5F5 - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ✓ 5F6a - Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] ✓ 5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents ✓ 5F7 - Round decimals with two decimal places to the nearest whole number and to one decimal place ✓ 5F8 - Read, write, order and compare numbers with up to three decimal places ✓ 5F10 - Solve problems involving number up to three decimal places ✓ 5F11 - Recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator 100, and as a decimal ✓ 5F12 - Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 	<ul style="list-style-type: none"> ✓ 4F4 - Add and subtract fractions with the same denominator ✓ 4F6a - Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ ✓ 4F6b - Recognise and write decimal equivalents of any number of tenths or hundredths ✓ 4F7 - Round decimals with one decimal place to the nearest whole number ✓ 4F8 -Compare numbers with the same number of decimal places up to two decimal places ✓ 4F9 - Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths ✓ 4F10 - Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number ✓ 4F10b - Solve simple measure and money problems involving fractions and decimals to two decimal places
	<p>RATIO AND PROPORTION</p>	<ul style="list-style-type: none"> ✓ 6R1 - Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts ✓ 6R2 - Solve problems involving the calculation of percentages [e.g. of measures and such as 15% of 360] and the use of percentages for comparison ✓ 6R3 - Solve problems involving similar shapes where the scale factor is known or can be found ✓ 6R4 - Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. 	



<p>ALGEBRA</p>	<ul style="list-style-type: none"> ✓ 6A1 - Express missing number problems algebraically ✓ 6A2 - Use simple formulae ✓ 6A3 - Generate and describe linear number sequences ✓ 6A4 - Find pairs of numbers that satisfy an equation with two unknowns ✓ 6A5 - Enumerate possibilities of combinations of two variables 		
<p>MEASUREMENT</p>	<ul style="list-style-type: none"> ✓ 6M5 - Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places ✓ 6M6 - Convert between miles and km ✓ 6M7a - Recognise that shapes with the same areas can have different perimeters and vice versa ✓ 6M7b - Calculate the area of parallelograms and triangles ✓ 6M7c - Recognise when it is possible to use the formulae for the area of shapes ✓ 6M8a - Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units [e.g. mm^3 and km^3]. ✓ 6M8b - Recognise when it is possible to use the formulae for the volume of shapes ✓ 6M9 - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate 	<ul style="list-style-type: none"> ✓ 5M5 - Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre] ✓ 5M6 - Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints ✓ 5M7a - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres ✓ 5M7b - Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes ✓ 5M8 - Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. ✓ 5M9b - Use all four operations to solve problems involving measure [eg: length] using decimal notation including scaling ✓ 5M9c - Use all four operations to solve problems involving measure [eg: mass] using decimal notation including scaling ✓ 5M9d - Use all four operations to solve problems involving measure [eg: volume] using decimal notation including scaling 	<ul style="list-style-type: none"> ✓ 4M1 – Compare different measures, including money in pounds and pence ✓ 4M2 - Estimate, compare and calculate different measures, including money in pounds and pence ✓ 4M5 - Convert between different units of measure [e.g: kilometre to metre, hour to minute] ✓ 4M7a - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres ✓ 4M7b - Find the area of rectilinear shapes by counting squares. ✓ 4M9 - Calculate different measures, including money in pounds and pence
<p>MEASUREMENT (MONEY)</p>		<ul style="list-style-type: none"> ✓ 5M9a - Use all four operations to solve problems involving measure [money] using decimal notation including scaling 	<ul style="list-style-type: none"> ✓ 4M1 – Compare different measures, including money in pounds and pence ✓ 4M2 - Estimate, compare and calculate different measures, including money in pounds and pence ✓ 4M9 - Calculate different measures, including money in pounds and pence



<p>MEASUREMENT (TIME)</p>		<ul style="list-style-type: none"> ✓ 5M4 - Solve problems involving converting between units of time. 	<ul style="list-style-type: none"> ✓ 4M4a - Read, write and convert time between analogue and digital 12--hour clocks ✓ 4Mb - Read, write and convert time between analogue and digital 24-hour clocks ✓ 4M4c - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days ✓ 4M5 - Convert between different units of measure [e.g: kilometre to metre, hour to minute]
<p>GEOMETRY (SHAPE)</p>	<ul style="list-style-type: none"> ✓ 6G2a - Compare and classify geometric shapes based on their properties and sizes ✓ 6G2b – Describe simple 3-D shapes ✓ 6G3a - Draw 2D shapes using given dimensions and angles ✓ 6G3b - Recognise and build simple 3-D shapes, including making nets ✓ 6G4a - Find unknown angles in any triangles, quadrilaterals, and regular polygons ✓ 6G4b - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles ✓ 6G5 - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius 	<ul style="list-style-type: none"> ✓ 5G2a - Use the properties of rectangles to deduce related facts and find missing lengths and angles ✓ 5G2b - Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. ✓ 5G3b - Identify 3-D shapes, including cubes and other cuboids, from 2-D representations ✓ 5G4a - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles ✓ 5G4b - Identify: <ul style="list-style-type: none"> – angles at a point and one whole turn (total 360°) – angles at a point on a straight line and 1/2 a turn (total 180°) – other multiples of 90° ✓ 5G4c - Draw given angles, and measure them in degrees (°) 	<ul style="list-style-type: none"> ✓ 4G2a - Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes ✓ 4G42b - Identify lines of symmetry in 2-D shapes presented in different orientations. ✓ 4G2c - Complete a simple symmetric figure with respect to a specific line of symmetry ✓ 4G4 - Identify acute and obtuse angles and compare and order angles up to two right angles by size
<p>GEOMETRY (POSITION/ DIRECTION)</p>	<ul style="list-style-type: none"> ✓ 6P2 - Draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes. ✓ 6P3 - Describe positions on the full co-ordinate grid (all four quadrants) 	<ul style="list-style-type: none"> ✓ 5P2 - Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. 	<ul style="list-style-type: none"> ✓ 4P2 - Describe movements between positions as translations of a given unit to the left/right and up/down ✓ 4P3a - Describe positions on a 2-D grid as coordinates in the first quadrant ✓ 4P3b - Plot specified points and draw sides to complete a given polygon.
<p>STATISTICS</p>	<ul style="list-style-type: none"> ✓ 6S1 - Interpret and construct pie charts and line graphs and use these to solve problems ✓ 6S3 - Calculate and interpret the mean as an average. 	<ul style="list-style-type: none"> ✓ 5S1 - Complete, read and interpret information in tables including timetables. ✓ 5S2 - Solve comparison, sum and difference problems using information presented in a line graph 	<ul style="list-style-type: none"> ✓ 4S1 - Interpret and present discrete and continuous data using appropriate graphical methods, inc. bar charts and time graphs ✓ 4S2 - Solve comparison, sum and difference problems using info presented in bar charts, pictograms, tables and graphs