

Year 6 Maths Long Term Plan

Year 6 Autumn Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<b>Number &amp; Place Value</b>	Place value and rounding Negative numbers			Addition and subtraction (written method and worded problems)		Multiplication and division (chunking) and worded problems			Fractions (equivalent/ addition/ subtraction/ multiplication)			
<b>Priority</b>	<ul style="list-style-type: none"> <li>6NPV-1 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).</li> <li>6NPV-2 Recognise the place value 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 partitioning.</li> <li>6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</li> </ul>			<ul style="list-style-type: none"> <li>6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).</li> <li>6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</li> <li>6AS/MD-4 Solve problems with 2 unknowns.</li> </ul>			<ul style="list-style-type: none"> <li>6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions.</li> <li>6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value.</li> <li>6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.</li> </ul>					
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>round any whole number to a required degree of accuracy</li> <li>use negative numbers in context, and calculate intervals across zero</li> <li>solve number and practical problems that involve all of the above.</li> </ul>			<ul style="list-style-type: none"> <li>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>solve problems involving addition, subtraction</li> <li>multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>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</li> <li>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</li> <li>perform mental calculations, including with mixed operations and large numbers</li> <li>use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>solve problems involving multiplication and division</li> <li>use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>			<ul style="list-style-type: none"> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>compare and order fractions, including fractions &gt; 1</li> <li>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>]</li> <li>associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>]</li> </ul>					
<b>Covid recovery</b>	<ul style="list-style-type: none"> <li></li> </ul>			<ul style="list-style-type: none"> <li></li> </ul>			Multiplying proper fractions and mixed number fractions by whole numbers.					

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<b>Geometry, Measurement, Statistics</b>	Factors, multiples primes	Measures Area & Perimeter			Measures Volume	Geometry Properties of 2D and 3D shapes			Geometry Angles		Statistics Averages	
<b>Priority</b>	•	•				• 6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.			•		•	
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>identify common factors, common multiples and prime numbers</li> </ul>	<ul style="list-style-type: none"> <li>recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>recognise when it is possible to use formulae for area and volume of shapes</li> <li>calculate the area of parallelograms and triangles</li> <li>calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units[for example, mm<sup>3</sup> and km<sup>3</sup>].</li> </ul>			<ul style="list-style-type: none"> <li>draw 2-D shapes using given dimensions and angles</li> <li>recognise, describe and build simple 3-D shapes, including making nets</li> <li>compare and classify geometric shapes based on their properties and sizes and find</li> </ul>			<ul style="list-style-type: none"> <li>unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> </ul>		<ul style="list-style-type: none"> <li>calculate and interpret the mean as an average.</li> </ul>		
<b>Mental Maths</b>	<ul style="list-style-type: none"> <li>addition and subtraction facts for multiples of 10 to 1000 and decimal numbers with one decimal place, e.g. <math>650 + ? = 930</math>, <math>? - 1.4 = 2.5</math></li> <li>what must be added to a decimal with units, tenths and hundredths to make the next whole number, e.g. <math>7.26 + ? = 8</math></li> <li>derive number bonds to 1,000.</li> <li>squares to <math>12 \times 12</math></li> <li>squares of the corresponding multiples of 10</li> <li>prime numbers less than 100</li> </ul>			<ul style="list-style-type: none"> <li>add or subtract pairs of decimals with units, tenths or hundredths, e.g. <math>0.7 + 3.38</math></li> <li>find doubles of decimals each with units and tenths, e.g. <math>1.6 + 1.6</math></li> <li>add near doubles of decimals, e.g. <math>2.5 + 2.6</math></li> <li>add or subtract a decimal with units and tenths, that is nearly a whole number, e.g. <math>4.3 + 2.9</math>, <math>6.5 - 3.8</math></li> <li>add or subtract 1 or 2 place decimal numbers less than 1 e.g. <math>0.74 + 0.33</math></li> </ul>			<ul style="list-style-type: none"> <li>use knowledge of place value and related calculations, e.g. <math>680 + 430</math>, <math>6.8 + 4.3</math>, <math>0.68 + 0.43</math> can all be worked out using the related calculation <math>68 + 43</math></li> <li>partition: double and adjust</li> <li>partition: add or subtract a whole</li> </ul>			<ul style="list-style-type: none"> <li>count on or back in hundreds, tens, ones, tenths and hundredths</li> <li>use knowledge of place value and of doubles of two-digit whole numbers number and adjust, e.g. <math>4.3 + 2.9 = 4.3 + 3 - 0.1</math>, <math>6.5 - 3.8 = 6.5 - 4 + 0.2</math></li> </ul>		
<b>Times tables</b>	Apply rules of divisibility for 2, 5 and 10 times table	Recap 3 and 4 times table		apply rules of divisibility for 3 times table	Recap 6 times table – link to 3 times table	Recap 8 times table – link to 4 times table		Recap 7 times table		Recap 9 times table finger trick	Recap 11 and 12 times tables	
<b>Retrieval (Quick starter)</b>	Recognize and name 2D and 3D shapes	Different types of angles – inc estimating		Reading information off bar charts and tables.			Time - reading clocks, calculating time intervals, converting time.			round any whole number to a required degree of accuracy		
<b>Covid Recovery</b>		Convert between different units of metric measure, e.g. km to m, cm to m, cm to mm, kg to g, l to ml. Understand and use approximate equivalents between metric units and common imperial units. Estimate volume and capacity.			Identify 3D shapes including cubes and other cuboids from other 2D representations.			Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees. Identify angles at a point, angles at a point on a straight line and other multiples of 90 degrees. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.				

Year 6 Spring Term

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<b>Number &amp; Place Value</b>	Fractions (division/ mixed addition and exchanging)		Decimals	percentage		F.D.P	Algebra / Scale factor			Ratio / proportion		
<b>Priority</b>	•		•	•		•	•			• <b>6AS/MD-3 Solve problems involving ratio relationships.</b>		
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>divide proper fractions by whole numbers [for example, <math>1/3 \div 2 = 1/6</math>]</li> </ul>		<ul style="list-style-type: none"> <li>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</li> <li>multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>use written division methods in cases where the answer has up to two decimal places</li> <li>solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>			<ul style="list-style-type: none"> <li>use simple formulae</li> <li>generate and describe linear number sequences</li> <li>express missing number problems algebraically</li> <li>find pairs of numbers that satisfy an equation with two unknowns</li> <li>enumerate possibilities of combinations of two variables.</li> </ul>			<ul style="list-style-type: none"> <li>solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</li> <li>solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</li> <li>solve problems involving similar shapes where the scale factor is known or can be found</li> <li><b>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</b></li> </ul>			
<b>Covid Recovery</b>	•		<ul style="list-style-type: none"> <li>Read, write, order and compare numbers with up to 3 decimal places.</li> <li>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>Recognise and understand the percent symbol. Write percentages as a fraction and as a decimal.</li> </ul>			•			•			

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<b>Geometry, Measurement, Statistics</b>	<b>Geometry</b> Position and Direction (coordinates)		<b>Measures</b> Length, Mass, Capacity			<b>Measures</b> Reading scales	<b>Geometry</b> Position and Direction (transformations)		<b>Time</b>	<b>Statistics</b> Graphs and Charts		
<b>Priority</b>	•		• 6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.			•		•	•			
<b>National Curriculum</b>	<ul style="list-style-type: none"> <li>describe positions on the full coordinate grid (all four quadrants)</li> <li>draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> </ul>		<ul style="list-style-type: none"> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>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</li> <li>convert between miles and kilometres</li> </ul>			<ul style="list-style-type: none"> <li>draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> </ul>		•	<ul style="list-style-type: none"> <li>interpret and construct pie charts and line graphs and use these to solve problems</li> </ul>			
<b>Mental Maths</b>	<ul style="list-style-type: none"> <li>multiply pairs of two-digit and single-digit numbers, e.g. <math>28 \times 3</math></li> <li>divide a two-digit number by a single-digit number, e.g. <math>68 \div 4</math></li> <li>divide by 25 or 50, e.g. <math>480 \div 25</math>, <math>3200 \div 50</math></li> </ul>		<ul style="list-style-type: none"> <li>double decimals with units and tenths, e.g. double 7.6, and find the corresponding halves, e.g. half of 15.2</li> <li>multiply pairs of multiples of 10 and 100, e.g. <math>50 \times 30</math>, <math>600 \times 20</math></li> <li>divide multiples of 100 by a multiple of 10 or 100 (whole number answers), e.g. <math>600 \div 20</math>, <math>800 \div 400</math>, <math>2100 \div 300</math></li> <li>multiply and divide two-digit decimals such as <math>0.8 \times 7</math>, <math>4.8 \div 6</math></li> <li>find 10% or multiples of 10%, of whole numbers and quantities, e.g. 30% of 50 ml, 40% of £30, 70% of 200g</li> <li>simplify fractions by cancelling</li> <li>scale up and down using known facts, e.g. given that three oranges cost 24p, find the cost of four oranges</li> <li>identify numbers with odd and even numbers of factors and no factor pairs other than 1 and themselves</li> </ul>			<ul style="list-style-type: none"> <li>partition: count on or back in minutes and hours, bridging through 60 (analogue and digital times, 12- hour and 24-hour clock)</li> <li>equivalent fractions, decimals and percentages for hundredths, e.g. 35% is equivalent to 0.35 or 35/100</li> <li>use knowledge of the equivalence between fractions and percentages and the relationship between fractions and division</li> </ul>		<ul style="list-style-type: none"> <li>partition: use partitioning and the distributive law to divide tens and ones separately, e.g. <math>92 \div 4 = (80 + 12) \div 4 = 20 + 3 = 23</math></li> <li>form an equivalent calculation, e.g. to divide by 25, divide by 100, then multiply by 4; to divide by 50, divide by 100, then double</li> <li>use doubling and halving as a mental division and multiplication strategy. e.g. to divide by 2,4,8,5,20 and 25 (<math>628 \div 8</math> is halved three times) (<math>28 \times 25</math> is <math>\frac{1}{4}</math> of <math>28 \times 100 = 700</math>)</li> <li>recognise how to scale up or down using multiplication and division, e.g. if three oranges cost 24p:one orange costs <math>24 \div 3 = 8</math>p four oranges cost <math>8 \times 4 = 32</math>p</li> </ul>				
<b>Times tables</b>	use prime factors to aid mental multiplication e.g. $36 \times 18 = 36 \times 2 \times 3 \times 3$ .		use divisibility tests to aid mental calculation.	Divide by 5 by dividing by 10 then dividing by 2		Use knowledge of multiplication and division facts to identify factor pairs and numbers with only two factors				Quick recall of facts to 12 x 12		
<b>Retrieval (Quick starter)</b>	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles		use their knowledge of the order of operations to carry out calculations involving the four operations (BIDMAS)	Mental +, -, x and $\div$ Efficient working Using what you know.	Written +, -, x and $\div$ (word problems – picking out operations needed)		find unknown angles in any triangles, quadrilaterals, and regular polygons		recall and use equivalences between simple fractions, decimals and percentages, including in different contexts		convert measurements of length, mass, volume, using decimal notation to up to three decimal places	
<b>Covid Recovery</b>						Solve problems involving converting between units of time.	Identify describe and represent position of a shape following a reflection or translation using the appropriate language and know that the shape has not changed.				Complete, read and interpret tables including time tables.	

