

## Year 5 – Mathematics Intent

Block	Topic	Term	Number of Weeks	Notes
1	<a href="#">Number and Place Value</a>			
2	<a href="#">Addition and Subtraction</a>			
3	<a href="#">Multiplication and Division</a>			
4	<a href="#">Fractions</a>			
5	<a href="#">Decimals and Percentages</a>			
6	<a href="#">Geometry</a>			
7	<a href="#">Measure – Length, Mass and Capacity</a>			
8	<a href="#">Measure – Perimeter and Area</a>			
9	<a href="#">Measure – Time</a>			
10	<a href="#">Statistics</a>			

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Block 1			
Number and Place Value			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning
National Curriculum			Detailed in Planning Overview
Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.	<ul style="list-style-type: none"> <li>• Can explain the place value in numbers up to 1 000 000</li> <li>• Can order a set of numbers to 1 000 000</li> <li>• Understands how a number can be partitioned into different amounts e.g. <i>45000 is 45 thousands, 450 hundreds, 4500 tens or 45000 ones.</i></li> </ul>	<ul style="list-style-type: none"> <li>*Reading, writing and making numbers to a million (place value charts, place value counters, digit cards)</li> <li>*Recognise the place value of each digit in a 7-digit number</li> <li>*Look at the impact of adding powers of 10 to a number up to 1,000,000 (with and without crossing boundaries)</li> </ul>
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000		<ul style="list-style-type: none"> <li>• Can count forwards and backwards in 10s and 100s and explain how to find numbers 10 and 100 bigger or smaller than any number to 1 000 000.</li> <li>• Can count forwards and backwards in 1 000s and 10 000s and explain how to find numbers 1 000 and 10 000 bigger or smaller than any number to 1 000 000.</li> </ul>	<ul style="list-style-type: none"> <li>*Understanding the size and value of a million (How Big is a Million – Usborne)</li> <li>*Partition a number up to 1 million in a standard and non-standard way</li> <li>*Compare and order numbers to 1,000,000</li> <li>*Position numbers up to 1 million on a number line with a range of start and ending points – blank and called number lines</li> </ul>
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero		<ul style="list-style-type: none"> <li>• Understands how to bridge through zero when counting forwards and backwards with positive and negative numbers</li> <li>• Can solve problems linked to temperature involving negative numbers</li> </ul>	<ul style="list-style-type: none"> <li>*Order and compare numbers (either by positioning on a number line first or by using place value)</li> <li>*Rounding numbers up to 1 million to the nearest 10, 100, 1000, 10,000 and 100,000</li> <li>*Read and position negative numbers on a number line.</li> </ul>
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	<ul style="list-style-type: none"> <li>• Understands the rules for rounding numbers and round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> </ul>	<ul style="list-style-type: none"> <li>*Calculate the difference between a positive and a negative number by bridging back through 0</li> <li>*Counting forwards and backwards with positive and negative numbers</li> <li>*Reading and writing Roman Numerals up to 1000</li> <li>*Problem solving</li> </ul>

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Solve number problems and practical problems that involve all of the above		<ul style="list-style-type: none"><li>• Can solve problems involving place value, including word problems and problems linked to money and measure</li></ul>	
Read Roman numerals to 1000 (m) and recognise years written in roman numerals.		<ul style="list-style-type: none"><li>• Can use Roman numerals to 100 to begin to derive Roman numerals to 1000</li><li>• Can recognise years written in Roman Numerals</li></ul>	

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Block 2			
Addition and Subtraction			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning
National Curriculum			Detailed in Planning Overview
Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)		<ul style="list-style-type: none"> <li>• Can solve THTU + THTU (bridging 10 and 100)</li> <li>• Can solve THTU - THTU (bridging 10 and 100)</li> <li>• Can use a formal written method to add money and measure using decimal notation to tenths</li> <li>• Use a formal written method to add money and measure using decimal notation to hundredths</li> <li>• Use a formal written method to add units of measure using decimal notation to hundredths</li> </ul>	<ul style="list-style-type: none"> <li>*Recap all mental strategies from Year 4</li> <li>*Add and subtract numbers mentally with increasingly large numbers – scaling facts</li> <li>*Add and subtract numbers mentally with increasingly large numbers – using place value to calculate</li> <li>*Add and subtract numbers mentally with increasingly large numbers – using partitioning to calculate</li> <li>*Add and subtract numbers mentally with increasingly large numbers – bridging</li> </ul>
Add and subtract numbers mentally with increasingly large numbers	NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth)	<ul style="list-style-type: none"> <li>• Can add and subtract increasing large numbers using a variety of strategies</li> <li>• Doubling, Partitioning, Reordering, Bridging through a multiple of 10</li> <li>• Can add and subtract simple decimals mentally e.g. <math>0.25 + 0.5</math></li> </ul>	<ul style="list-style-type: none"> <li>*Add and subtract numbers mentally with increasingly large numbers – reordering</li> <li>*Add and subtract numbers mentally with increasingly large numbers – fact families and inverse operations</li> <li>*Use rounding to check answers to calculations and determine, in the context of the problem, levels of accuracy</li> </ul>
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy		<ul style="list-style-type: none"> <li>• Can estimate the answer up to 4 digits by rounding</li> </ul>	<ul style="list-style-type: none"> <li>*Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li> </ul>
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why		<ul style="list-style-type: none"> <li>• Can use addition and/or subtraction strategies to solve a complex problem</li> <li>• Use the inverse to check the answer</li> <li>• Solve problems including those with more than one step</li> <li>• Solve open-ended investigations using a variety of units of measure</li> </ul>	<ul style="list-style-type: none"> <li>*Selecting efficient methods</li> <li>*Solving word problems</li> </ul>

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Block 3			
Multiplication and Division			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.	<ul style="list-style-type: none"> <li>• Can identify multiples of a number</li> <li>• Can systematically find all factor pairs of a 2-digit number</li> <li>• Can identify common factors in two 2-digit numbers</li> <li>• Can explain the relationship between a factor and a multiple</li> </ul>	<ul style="list-style-type: none"> <li>*Introduction/Times Tables</li> <li>*Related facts</li> <li>*Multiplying a number by 10, 100 and 1000</li> <li>*Dividing a number by 10, 100 and 1000</li> <li>*Doubling and halving relationship in multiplication and division</li> </ul>
Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers		<ul style="list-style-type: none"> <li>• Understands the definition of prime number</li> <li>• Can break a number down into prime factors</li> <li>• Understands the definition of a composite number</li> </ul>	<ul style="list-style-type: none"> <li>*Associative Law</li> <li>*Distributive Law</li> <li>*Multiples</li> <li>*Common Multiples</li> <li>*Factors</li> </ul>
Establish whether a number up to 100 is prime and recall prime numbers up to 19		<ul style="list-style-type: none"> <li>• Can identify prime numbers to 100</li> <li>• Can recall prime numbers to 19</li> <li>• Can explain why a number is prime</li> </ul>	<ul style="list-style-type: none"> <li>*Build arrays for square numbers and discuss that these have an odd number of factors</li> <li>*Cubed numbers</li> <li>*Build arrays for prime numbers and establish what makes these numbers prime</li> </ul>
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	MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.	<ul style="list-style-type: none"> <li>• Can use a formal written method to multiply ThHTU by U</li> <li>• Can use a formal written method to multiply TU by TU</li> <li>• Can use a formal written method to multiply HTU by TU</li> <li>• Can use a formal written method to multiply ThHTU by TU</li> </ul>	<ul style="list-style-type: none"> <li>* Substantial problem involving investigating factors, prime and square numbers</li> <li>*Formal written strategy for multiplication</li> <li>* Formal written strategy for division</li> <li>*Interpret remainders within division problems</li> </ul>

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<p>Multiply and divide numbers mentally drawing upon known facts</p>	<p>NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice</p> <p>NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth)</p> <p>MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.</p>	<ul style="list-style-type: none"> <li>• Quickly recall multiplication and division facts to 12 x 12</li> <li>• Use knowledge of times tables to multiply and divide by multiples of 10</li> <li>• Use knowledge of times tables to multiply and divide by multiples of 100</li> <li>• Use knowledge of times tables to multiply and divide by multiples of 1000</li> <li>• Can multiply multiples of 10 by multiples of 10</li> <li>• Can multiply multiples of 10 by multiples of 100</li> <li>• Can use rounding to estimate answers to larger multiplication or division calculations</li> <li>• Can use factors to calculate other multiplication facts e.g. <math>17 \times 6 = 17 \times 3 \times 2</math></li> </ul>	<p>* Solving problems involving multiplication and division (using mental and written strategies, scaling and simple ratio)</p>
<p>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</p>	<p>MD–4 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>	<ul style="list-style-type: none"> <li>• Can use a formal written method to divide TU by U</li> <li>• Can use a formal written method to divide HTU by U</li> <li>• Can use a formal written method to divide ThHTU by U</li> <li>• Can explain what a remainder is</li> <li>• Understands the meaning of a remainder in a context and interpret appropriately</li> </ul>	
<p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p>		<ul style="list-style-type: none"> <li>• Understand the effect of multiplying by 10, 100 and 1000</li> <li>• Understand the effect of dividing by 10, 100 and 1000</li> </ul>	

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<p>Recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</p>		<ul style="list-style-type: none"> <li>• Understand how to square a number and the notation for squared</li> <li>• Can recognise square numbers</li> <li>• Can link knowledge of square numbers to area</li> <li>• Understands how to cube a number and the notation for cubed</li> <li>• Can recognise cube numbers</li> <li>• Can link knowledge of cube numbers to volume</li> </ul>	
<p>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p>		<ul style="list-style-type: none"> <li>• Can solve problems that link children’s understanding of prime numbers, composite numbers, factors and multiples <i>e.g. complete partial multiplication pyramid using knowledge of factors and multiples</i></li> <li>• Can solve multiplication and division problems linked to measurement using children’s knowledge of squared and cubed numbers</li> </ul>	
<p>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p>		<ul style="list-style-type: none"> <li>• Can decide on which operations and methods are needed to solve a given problem</li> <li>• Can use appropriate strategies to solve a problem</li> <li>• Can recognise the equals sign as a balancing symbol <i>e.g. <math>3 \times 8 = 5 + ?</math></i></li> </ul>	
<p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple ratio.</p>		<ul style="list-style-type: none"> <li>• Can solve problems that involve scaling <i>e.g. reducing a recipe for more/less people</i></li> <li>• Can solve simple ratio problems <i>e.g. making paint to a given formula</i></li> </ul>	

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Block 4			
Fractions			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
<b>National Curriculum</b>			
Compare and order fractions whose denominators are all multiples of the same number		<ul style="list-style-type: none"> <li>• Can convert fractions using multiples to have the same denominator.</li> <li>• Understands the effect of a denominator increasing in multiples.</li> <li>• Compare and order mixed and improper fractions</li> </ul>	<ul style="list-style-type: none"> <li>*Recap the language of fractions and representations of fractions</li> <li>*Use a fractions wall to establish some simple equivalences</li> <li>*Explore the relationships between fractions that are equivalent</li> </ul>
Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	<ul style="list-style-type: none"> <li>• Understands that numbers can have a different representation but have generally the same meaning.</li> </ul>	<ul style="list-style-type: none"> <li>*Use multiplication to find a family of equivalent fractions when given a starting fraction</li> <li>*Order and compare fractions where the denominators are all multiples of each other – applying equivalent fractions understanding</li> <li>*Explore mixed numbers and improper fractions by continuing a fraction count across 2 fraction walls or a number line that extends beyond 1</li> </ul>
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $> 1$ as a mixed number		<ul style="list-style-type: none"> <li>• Understands a fraction can be more than one</li> <li>• Understands that when the numerator is more than the denominator it is more than one whole.</li> <li>• Understands fractions can be represented as a mixed number and an improper fraction.</li> </ul>	<ul style="list-style-type: none"> <li>*Position mixed numbers and improper fractions on a number line</li> <li>*Convert converting improper fractions to mixed numbers</li> <li>*Calculating non unit fraction of quantities</li> <li>*Add fractions with the same denominator and denominators are multiples of the same number</li> </ul>
Add and subtract fractions with the same denominator and denominators that are multiples of the same number		<ul style="list-style-type: none"> <li>• Can use common multiples to convert fractions to have the same denominator.</li> <li>• Can add and subtract fractions</li> <li>• Can convert answers using mixed and improper fractions.</li> <li>• Can mentally add and subtract <math>\frac{1}{10}</math>s</li> </ul>	<ul style="list-style-type: none"> <li>*Subtract fractions with the same denominator and denominators are multiples of the same number</li> <li>*Multiply proper fractions and mixed numbers by a whole number using models and images to support</li> </ul>



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Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams		<ul style="list-style-type: none"><li>• Can multiply together fractions with common denominators</li><li>• Can use a number line to represent multiplying a fraction as repeated addition.</li><li>• Understands when multiplying by a fraction the answer is smaller.</li></ul>	
	5F-1 Find non-unit fractions of quantities		

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Block 5			
Decimals and Percentages			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Read and write decimal numbers as fractions	F–3 Recall decimal fraction equivalents for $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , and $\frac{1}{10}$ and for multiples of these proper fractions.	<ul style="list-style-type: none"> <li>• Can convert decimals to fractions</li> <li>• Can explain the value of each part of a decimal and explain the fraction equivalence.</li> </ul>	<ul style="list-style-type: none"> <li>*Understand tenths and hundredths and the relationship between them</li> <li>*Teachers discretion to move thousandths to here instead of later in the unit</li> </ul>
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	NPV–1 Know that 10 tenths are equivalent 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.	<ul style="list-style-type: none"> <li>• Can identify and calculate <math>\frac{1}{1000}</math> as a decimal</li> <li>• Can identify the pattern when finding other thousandths</li> <li>• Can compare thousandths to tenths and hundredths.</li> </ul>	<ul style="list-style-type: none"> <li>*Partitioning and recombining decimal numbers</li> <li>*Compare decimals</li> <li>*Position decimal numbers on a number line</li> <li>*Rounding decimals</li> <li>*Mental addition of decimals</li> <li>*Mental subtraction of decimals</li> <li>*Written addition of decimals</li> <li>*Written subtraction of decimals</li> </ul>
Round decimals with two decimal places to the nearest whole number and to one decimal place	NPV–3 Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	<ul style="list-style-type: none"> <li>• Understands the rules of rounding up and down.</li> <li>• Can apply the rules of rounding to a whole number</li> <li>• Can apply the rules of rounding to 1dp.</li> <li>• Can identify which value is closer to a given number.</li> </ul>	<ul style="list-style-type: none"> <li>*Multiply and divide by 10, 100 and 1000</li> <li>*Multiply and divide numbers mentally drawing upon known facts</li> <li>*Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. <i>Teachers may decide to cover this earlier in the unit if children's understanding of hundredths is secure.</i></li> </ul>
Read, write, order and compare numbers with up to three decimal places	<p>NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.</p> <p>NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</p>	<ul style="list-style-type: none"> <li>• Understands how thousandths are represented as a decimal.</li> <li>• Can order numbers to 3dp.</li> </ul>	<ul style="list-style-type: none"> <li>*Solve problems involving numbers up to 3 decimal places</li> <li>*Read and write decimal numbers as fractions</li> <li>*Recognise and write percentages</li> <li>*Recognise equivalent percentages, fractions and decimals</li> <li>*Finding percentages of amounts</li> </ul>

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Solve problems involving number up to three decimal places		<ul style="list-style-type: none"> <li>• Can solve problems involving measure</li> </ul>	*Solve problems that require knowing percentage and decimal equivalents
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		<ul style="list-style-type: none"> <li>• Understand 1% is 1 part out of 100</li> <li>• Can write the decimal equivalent to 1%</li> <li>• Understand percentage as a number out of 100.</li> <li>• Can write percentages as a fraction with denominator 100</li> <li>• Can use 1% to calculate 10%, 5%, 50% and 100%</li> </ul>	
Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , and $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.		<ul style="list-style-type: none"> <li>• Can use the pattern to calculate other multiples of known percentages.</li> <li>• Has a good recall of the percentage, fraction and decimal equivalence of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, and <math>\frac{4}{5}</math></li> <li>• Has a good recall of the percentage and decimal equivalence of fractions with a denominator of a multiple of 10 or 25.</li> </ul>	

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Block 6			
Geometry			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
<p><b>National Curriculum</b></p> <p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p>		<ul style="list-style-type: none"> <li>• Can name 3D shapes from pictures</li> <li>• Can identify the 3D shapes represented by 2D nets</li> <li>• Can identify nets of open and closed cubes</li> </ul>	<p>*Introduction and recap of previous learning</p> <p>*Know angles are measured in degrees</p> <p>*Estimate and compare acute, obtuse and reflex angles</p> <p>* Draw given angles, and measure them in degrees (<math>^{\circ}</math>)</p> <p>* Identify:</p> <ul style="list-style-type: none"> <li>-angles at a point and one whole turn (total <math>360^{\circ}</math>)</li> <li>-angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>)</li> <li>-other multiples of <math>90^{\circ}</math></li> </ul> <p>*Use the properties of rectangles to deduce related facts and find missing lengths and angles</p> <p>*Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> <p>*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.</p> <p>*Identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p>
<p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</p>	<p>G-1 Compare angles, estimate and measure angles in degrees (<math>^{\circ}</math>) and draw angles of a given size.</p>	<p>Can explain that angles are measured in degrees</p> <ul style="list-style-type: none"> <li>• Can identify acute, obtuse and reflex angles</li> <li>• Can estimate the size of acute, obtuse and reflex angles</li> <li>• Can compare and order a set of angles</li> </ul>	
<p>Draw given angles, and measure them in degrees (<math>^{\circ}</math>)</p>	<p>G-1 Compare angles, estimate and measure angles in degrees (<math>^{\circ}</math>) and draw angles of a given size.</p>	<ul style="list-style-type: none"> <li>• Can use a protractor to measure angles accurately in degrees both on their own and within shapes</li> <li>• Can draw given angles using a protractor</li> </ul>	
<p>Identify:</p> <ul style="list-style-type: none"> <li>• angles at a point and one whole turn (total <math>360^{\circ}</math>)</li> <li>• angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>)</li> <li>• other multiples of <math>90^{\circ}</math></li> </ul>		<ul style="list-style-type: none"> <li>• Can recognise that angles at a point make a whole turn and total <math>360^{\circ}</math></li> <li>• Can recognise that angles on a straight line make half a turn and total <math>180^{\circ}</math></li> <li>• Can recognise multiples of <math>90^{\circ}</math> within turns</li> <li>• Can calculate missing angles in a range of contexts</li> </ul>	

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<p>Use the properties of rectangles to deduce related facts and find missing lengths and angles</p>		<ul style="list-style-type: none"> <li>• Can describe that a rectangle has two pairs of equal and parallel sides</li> <li>• Can describe that a rectangle has four right-angles</li> <li>• Can explain why a square is a type of rectangle</li> <li>• Can find missing lengths of rectangles</li> <li>• Can identify the diagonals of rectangles</li> <li>• Can make suggestions about the size of angles formed between the parallel sides of a rectangle and its diagonals</li> <li>• Can use the fact that the angle sum of a quadrilateral is <math>360^\circ</math> to make suggestions about the size of the angles formed between the sides of quadrilaterals</li> </ul>	
<p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>		<ul style="list-style-type: none"> <li>• Can recognise that a regular polygon has <math>n</math> equal sides and <math>n</math> equal angles</li> <li>• Can identify regular and irregular polygons from a set of shapes and explain why</li> <li>• Can identify a square as the only regular quadrilateral.</li> </ul>	
<p>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.</p>		<ul style="list-style-type: none"> <li>• Can describe the position of a shape after it has been reflected in a line that is parallel to an axis.</li> <li>• Can describe the position of a shape after it has been translated across and up.</li> <li>• Understand the difference between a congruent and similar shape.</li> </ul>	

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Block 7			
Measure – Length, Mass and Capacity			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	NPV–5 Convert between units of measure, including using common decimals and fractions.	<ul style="list-style-type: none"> <li>• Can use their knowledge of place value and multiplication and division by 10, 100 and 1000 to convert between standard units</li> <li>• Can decide on the appropriate measure to record their answer</li> <li>• Can understand the decimal notation of units of measure.</li> </ul>	<p>*Recap what is known about metric measures – how many g in a kg, ml in a l, cm in a m, etc</p> <p>*Convert between different units of metric measure, including decimals and fractions</p> <p>*Understand and use approximate equivalences between metric units and common imperial units and convert between them</p>
Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints		<ul style="list-style-type: none"> <li>• Can convert between familiar imperial units of measure and metric measure                             <ul style="list-style-type: none"> <li>○ 1 litre is approximately 2 pints (more accurately, 1 <math>\frac{3}{4}</math> pints)</li> <li>○ 4.5 litres is approximately 1 gallon or 8 pints</li> <li>○ 1 kilogram is approximately 2 lb (more accurately, 2.2 lb)</li> <li>○ 30 grams is approximately 1 oz</li> <li>○ 8 kilometres is approximately 5 miles</li> </ul> </li> <li>• Can compare imperial units to metric units of measure by converting units into the same unit of measure.</li> </ul>	<p>* Estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]</p> <p>*Use addition and subtraction to solve problems involving measure</p> <p>*Use multiplication and division to solve problems involving measure</p> <p>*Consolidation through topic and real-life situations</p>
Estimate volume [for example, using 1 cm <sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]		<ul style="list-style-type: none"> <li>• Can find volumes of regular and irregular 3D shapes using cubes.</li> <li>• Can identify shapes /containers with a similar volume.</li> <li>• Can record volume using cm<sup>3</sup></li> </ul>	
Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.		<ul style="list-style-type: none"> <li>• Can solve problems involving a variety of measures.</li> <li>• Can convert appropriately between measures to help solve the problem</li> </ul>	

Block 8			
Measure – Perimeter and Area			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres		<ul style="list-style-type: none"> <li>• Can divide a composite shape into rectangles and calculate the perimeter of each shape.</li> <li>• Can recombine shapes and calculate the perimeter of shapes.</li> <li>• Can find missing lengths of a shape if given a perimeter.</li> </ul>	<ul style="list-style-type: none"> <li>*Recap perimeter and look at the perimeter of regular shapes</li> <li>*Find missing lengths of a shape if given the total perimeter</li> <li>*Find the perimeter of a composite rectilinear shape by breaking it down into smaller shapes</li> <li>* Recap area and counting the squares in a shape to find its area</li> <li>*Understand why we use the notation cm squared when recording the area of a shape</li> </ul>
Calculate and compare 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	G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.	<ul style="list-style-type: none"> <li>• Can use the formula, L x W to calculate area.</li> <li>• Understands why the answer is the unit squared.</li> <li>• Can find shapes that have a set area.</li> <li>• Can calculate area from scaled drawings</li> </ul>	<ul style="list-style-type: none"> <li>*Use the formula LxW to calculate the area of a shape using cm<sup>2</sup></li> <li>*Use a scaled drawing to calculate the area of other regular polygons</li> <li>*Estimate the area of irregular shapes</li> </ul>

Year 5 – Mathematics Intent

Block 9			
Measure – Time			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
National Curriculum			
Solve problems involving converting between units of time	NPV-5 Convert between units of measure, including using common decimals and fractions.	<ul style="list-style-type: none"> <li>• Can use all four operations in problems involving time, including conversions</li> </ul>	*Introduction *Solve problems involving telling the time *Solve problems involving converting between units of time *Solve problems involving calculating durations of events *Apply telling the time and calculating durations of events to reading timetables



Block 10			
Statistics			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
<p><b>National Curriculum</b></p> <p>Solve comparison, sum and difference problems using information presented in a line graph</p>	<p>No specific Ready to Progress statements for Money but use the opportunity to consolidate prior statements as appropriate e.g NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</p>	<ul style="list-style-type: none"> <li>• Can answer questions that involve comparing the values between two points on a line graph e.g. When does the temperature rise the quickest?</li> <li>• Can answer questions that involve finding the difference between two points on a line graph e.g. By how much does the temperature rise between 1 and 2pm</li> <li>• Can answer questions that involve finding the sum of values on a line graph e.g. How far did the lorry driver travel in total?</li> </ul>	<p>*Introduction</p> <p>*Solve comparison, sum and difference problems using information presented in a line graph</p> <p>*Substantial problem linked to a line graph</p> <p>*Complete, read and interpret Information in tables, including timetables</p>
<p>Complete, read and interpret information in tables, including timetables</p>		<ul style="list-style-type: none"> <li>• Can answer questions that involve timetables e.g. How long does the journey from Chester to Northwich take on the bus?</li> <li>• Can answer questions linked to information presented in tables</li> </ul>	