



Christleton Primary School

Maths

Year 4 – Mathematics Intent

**Year 4 Maths Long Term Plan**

<b>Autumn</b>	Multiplication and Division x tables (3 weeks)	Number and Place Value (5 weeks)		Addition and Subtraction (4 weeks)		Statistics (1 week)	
	Multiplication and Division (4 weeks)		Fractions (5 weeks)			Decimals (3 weeks)	
<b>Spring</b>	Decimals (2 weeks)		Measure: Money (2 weeks)	Measure: Length, perimeter and area (3 weeks)	Geometry: shape (2 weeks)	Measure: Position and Direction (2 weeks)	Measure: Time (2 weeks)
	Decimals (2 weeks)		Measure: Money (2 weeks)	Measure: Length, perimeter and area (3 weeks)	Geometry: shape (2 weeks)	Measure: Position and Direction (2 weeks)	Measure: Time (2 weeks)

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Block 1			
Multiplication and Division (x tables)			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
National Curriculum			
Recall multiplication and division facts for multiplication tables up to $12 \times 12$	NF-1 Recall multiplication and division facts up to $12 \times 12$ and recognise products in multiplication tables as multiples of the corresponding number.	<ul style="list-style-type: none"> <li>• Can explain how to use known facts to derive others</li> <li>• Can recall the 3x 4x 8x table from year 3</li> <li>• Can recall the 6x table</li> <li>• Can recall the 7x table</li> <li>• Can recall the 9x table</li> <li>• Can recall the 11x table</li> <li>• Can recall the 12x table</li> <li>• Can derive related division facts</li> <li>• Understands that division cannot be done in any order</li> </ul>	*Recap 2, 5 and 10 times tables including patterns and generalisations *Recap 4, 8 and 3 times tables including patterns and generalisations *Teach 6, 12, 9, 11 and 7 times tables *Using arrays to investigate fact families and the commutative law and inverse relationship of multiplication and division *Solve missing box calculations using known facts and inverse operations *Strategies for mental calculation (partitioning, doubling and halving, compensating)

Block 2			
Number and Place Value			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
National Curriculum			

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Count in multiples of 6, 7, 9, 25 and 1000		<ul style="list-style-type: none"> <li>• Can count in multiples of 6, 7 and 9</li> <li>• Can count in multiples of 25 and 100 and explain the link between the two amounts</li> </ul>	<ul style="list-style-type: none"> <li>*Introduction to resources</li> <li>*Building 4-digit numbers out of a range of concrete resources</li> </ul>
Find 1000 more or less than a given number		<ul style="list-style-type: none"> <li>• Can find 1000 more than a given number and explain which digit changes</li> <li>• Can find 1000 less than a given number and explain which digit changes</li> </ul>	<ul style="list-style-type: none"> <li>*Counting in 1000's to gain confidence with 4-digit numbers</li> <li>*Composing 4-digit numbers and discussing column value of each digit of these numbers (including the role of 0 in a number)</li> </ul>
Count backwards through zero to include negative numbers		<ul style="list-style-type: none"> <li>• Can count backwards in a range of multiples to include negative numbers and understand the value of the digits</li> </ul>	<ul style="list-style-type: none"> <li>*Recognising that there are 10 hundreds in a thousand, 100 tens in 1000, 1000 ones in 1000 and using this to represent a 4-digit number</li> </ul>
Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning	<ul style="list-style-type: none"> <li>• Can identify the number of thousands, hundreds, tens and ones in a 4-digit number</li> </ul>	<ul style="list-style-type: none"> <li>*Standard and non-standard partitioning</li> <li>*Finding 1000 more or less than a given number</li> </ul>
Order and compare numbers beyond 1000	<p>NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.</p> <p>NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts</p>	<ul style="list-style-type: none"> <li>• Can identify the larger of two 4-digit numbers and explain reasoning</li> <li>• Can position 4-digit numbers on a number line and explain reasoning about where they are positioned</li> </ul>	<ul style="list-style-type: none"> <li>* Ordering and comparing numbers beyond 1000</li> <li>*Counting in 1000s, 500s, 100s, 50s and 25s</li> <li>* Positioning numbers on a blank and scaled number lines with a variety of starting and ending points and a range of increments.</li> <li>*Rounding numbers to the nearest 10, 100 and 1000</li> </ul>
Identify, represent and estimate numbers using	NPV-1 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	<ul style="list-style-type: none"> <li>• Can use equipment to represent numbers and to explain reasoning about the size of numbers</li> </ul>	<ul style="list-style-type: none"> <li>*Reading and representing numbers on a number line to include negative numbers</li> </ul>

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different representations	out how many 100s there are in other four-digit multiples of 100		* Reading and writing Roman numerals up to 100
Round any number to the nearest 10, 100 or 1000	NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	<ul style="list-style-type: none"> <li>• Can round numbers to the nearest 10</li> <li>• Can round numbers to the nearest 100</li> <li>• Can round numbers to the nearest 1000</li> <li>• Can explain the rules of rounding</li> </ul>	
Solve number and practical problems that involve all of the above and with increasingly large positive numbers		<ul style="list-style-type: none"> <li>• Solve problems involving place value, including word problems and problems linked to money and measure</li> </ul>	
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.		<ul style="list-style-type: none"> <li>• Can read Roman numerals to 100</li> <li>• Can understand how the numeral system developed over time</li> </ul>	

### Block 3

#### Addition and Subtraction

Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
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National Curriculum			
Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100),	<ul style="list-style-type: none"> <li>• Can calculate THTU + HTU (no bridging)</li> <li>• Can Calculate THTU + HTU (bridging 10)</li> <li>• Can Calculate THTU + HTU (bridging 100)</li> <li>• Can Calculate THTU + THTU (no bridging)</li> <li>• Can Calculate THTU + THTU (bridging 10)</li> <li>• Can Calculate THTU + THTU (bridging 100)</li> <li>• Can Calculate THTU + THTU (bridging 10 and 100)</li> <li>• Can calculate THTU - HTU (no bridging)</li> <li>• Can Calculate THTU - HTU (bridging 10)</li> <li>• Can Calculate THTU - HTU (bridging 100)</li> <li>• Can Calculate THTU - THTU (no bridging)</li> <li>• Can Calculate THTU - THTU (bridging 10)</li> <li>• Can Calculate THTU - THTU (bridging 100)</li> <li>• Can Calculate THTU - THTU (bridging 10 and 100)</li> <li>• Can reflect on when it is appropriate to use a standard written method in an addition or subtraction calculation with up to 4 digits</li> </ul>	<ul style="list-style-type: none"> <li>*Recapping known facts (bonds within 10, to 10, to 20, compliments to 100)</li> <li>*Scaling known facts by 10, 100 and 1000 to create related facts</li> <li>*Adding multiples of 1, 10, 100 and 1000 to a number with no bridging</li> <li>*Adding 1 digit to a 3 or 4-digit number using bridging</li> <li>*Adding a multiple of 10 to a 3 or 4-digit number using bridging</li> <li>*Adding a multiple of 100 to a 4-digit number using bridging</li> <li>*Subtracting multiples of 1, 10, 100 and 1000 from a number with no bridging</li> <li>*Subtracting 1 digit from a 3 or 4-digit number using bridging</li> <li>*Subtracting a multiple of 10 from a 3 or 4-digit number using bridging</li> <li>*Subtracting a multiple of 100 from a 4-digit number using bridging</li> <li>*Using the concept of 'finding the difference' within subtraction</li> <li>*Understanding the inverse relationship between addition and subtraction and generating fact families</li> <li>*Using inverse operations within addition and subtraction to check calculations</li> </ul>
Estimate and use inverse operations to check answers to a calculation		<ul style="list-style-type: none"> <li>• Can estimate the answer of an addition or subtraction up to 4 digits</li> </ul> <p>Can use addition and subtraction to calculate the inverse</p>	<ul style="list-style-type: none"> <li>* Reordering calculations to look for known facts and aid efficiency</li> <li>* Compensating and Adjusting</li> <li>*Standard written method of addition (4 digit add 4 digit)</li> </ul>
Solve addition and subtraction two-step problems in contexts,		<ul style="list-style-type: none"> <li>• Can use a calculation skill in a problem using units of measure (km, m, cm, mm, kg, g, l, ml, hours, minutes and seconds)</li> </ul>	<ul style="list-style-type: none"> <li>*Standard written method of subtraction (4 digit subtract 4 digit)</li> <li>*Reflecting on the most efficient strategy</li> </ul>

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deciding which operations and methods to use and why.			*Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.
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Block 4			
Statistics			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	No specific Ready to Progress statements for statistics but use the opportunity to consolidate prior statements as appropriate e.g NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts	<ul style="list-style-type: none"> <li>Understands which is the best method of recording data <i>e.g. compare data presented in a bar chart and line graph and reason as to which is the most effective</i></li> <li>Can use an appropriate scale when representing data</li> <li>Can answer questions from a range of different graphs <i>e.g. In which months was the temperature below 10°C?</i></li> </ul>	<ul style="list-style-type: none"> <li>*Make a class chart using cubes. Children to vote by selecting a colour cube that matches their choice and then make bar chart. Show how to draw on a bar chart / tally chart. Discuss how to read each axis. Link axis to reading a number line.</li> <li>*Children to practice reading discreet data charts (bar, tally, Pictogram) and answer questions around this data (ensure that charts have differing scales)</li> </ul>
Solve comparison, sum and difference problems using information presented in bar charts, pictograms,		<ul style="list-style-type: none"> <li>Can answer questions from a bar chart that involve comparison, sum and difference</li> <li>Can answer questions from a pictogram that involve comparison, sum and difference</li> <li>Can answer questions from a table that involve comparison, sum and difference</li> </ul>	<ul style="list-style-type: none"> <li>*Children to investigate their own discreet data collection and choose how to represent this clearly with an appropriate scale</li> <li>*Introduce continuous data and discuss how this is different to discreet</li> <li>*Represent continuous data as a line graph (link to science/topic)</li> </ul>

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tables and other graphs.		<ul style="list-style-type: none"> <li>• Can answer questions from a line graph that involve comparison, sum and difference</li> </ul>	<p>*Read and interpret a range of line graphs and answer questions on the data</p> <p>*Collect continuous data and choose how to present this and with what scale</p>
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Block 5			
Multiplication and Division			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
National Curriculum			
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	<p>4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)</p> <p>MD–3 Understand and apply the distributive property of multiplication</p>	<ul style="list-style-type: none"> <li>• Understands how a multiplication fact can be used to multiply by a multiple of 10</li> <li>• Understands how a multiplication fact can be used to multiply by a multiple of 100</li> <li>• Understands how to multiply 3 one-digit numbers together</li> <li>• Understands the effect of multiplying by 1 and 0</li> <li>• Understands the effect of dividing by 1</li> <li>• Understands how a multiplication fact can be used to solve a division calculation</li> </ul>	<p>*Multiplying by 10 and 100</p> <p>*Dividing by 1, 10 and 100</p> <p>*Using scaling numbers by 10 and 100 to solve calculations using known facts</p> <p>*Using arrays investigate fact families and the commutative law and inverse relationship of multiplication and division</p> <p>*Solve missing box calculations using known facts and inverse operations</p>
Recognise and use factor pairs and commutativity in mental calculations	MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	<ul style="list-style-type: none"> <li>• Can identify factors of a 2-digit number</li> <li>• Understands that multiplication can be done in any order</li> </ul>	<p>*Strategies for mental calculation (partitioning, doubling and halving, compensating)</p> <p>*Find factors of numbers using a systematic approach</p>

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<p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p>		<ul style="list-style-type: none"> <li>• Can use a formal written method to multiply TU by U</li> <li>• Can use a formal written method to multiply HTU by U</li> </ul>	<p>*Multiplying 3 numbers using the most efficient strategy</p> <p>*Solving problems including using scaling and correspondence</p> <p>*Written strategy for multiplication (Check school calculation policy)</p>
<p>Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.</p>	<p>NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders</p>	<ul style="list-style-type: none"> <li>• Can solve word problems involving multiplication</li> <li>• Can solve word problems involving division</li> <li>• Can solve scaling problems involving measures</li> <li>• Can solve correspondence problems <i>e.g. There are 3 starters, mains and desserts on a menu, how many possible meals could you have?</i></li> </ul>	<p>* Written strategy for division if stated in school calculation policy</p> <p>*Solve a range of problems using multiplication and division using an efficient strategy.</p> <p>*Solve multi-step problems involving all 4 operations. Choose an efficient method for calculating and explain which methods have been used.</p>

<b>Block 6</b>			
<b>Fractions</b>			
<b>Substantive Knowledge</b>  National Curriculum	<b>Ready to Progress</b>	<b>Key Performance Indicators</b>	<b>Sequence of learning</b> Detailed in Planning Overview

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Recognise and show, using diagrams, families of common equivalent fractions	<p>F–1 Reason about the location of mixed numbers in the linear number system</p> <p>F–2 Convert mixed numbers to improper fractions and vice versa.</p>	<ul style="list-style-type: none"> <li>• Can use common multiples to generate equivalent fractions.</li> <li>• Can simplify fractions using common factors</li> </ul>	<p>*Recapping children’s prior knowledge of fractions</p> <p>*Investigating using pictorial or practical resources how to make a whole</p> <p>*Placing fractions on a 0-1 number line</p>
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		<ul style="list-style-type: none"> <li>• Can use unit fractions to solve a problem.</li> <li>• Can use non-unit fractions to solve a problem.</li> </ul>	<p>*Placing mixed numbers and improper fractions on a number line</p> <p>*Equivalent fractions using multiplication</p> <p>*Finding fractions of an amount (unit and non-unit fractions)</p> <p>*Adding fractions with the same denominator (total may exceed one whole)</p>
Add and subtract fractions with the same denominator	F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers	<ul style="list-style-type: none"> <li>• Can add multiples of common fractions such as a <math>\frac{1}{2}</math> and <math>\frac{1}{4}</math></li> <li>• Can add and subtract fractions with a common denominator</li> <li>• Can use equivalent fractions to add and subtract fractions of the same denominator.</li> </ul>	<p>*Subtracting fractions with the same denominator (start number may be more than one whole)</p>

### Blocks 7 and 8

#### Decimals and Money

Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
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National Curriculum			
Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.		<ul style="list-style-type: none"> <li>• Understands hundredths are dividing an object or a number into 100 equal parts.</li> <li>• Understand tenths are dividing an object or a number into 10 equal parts.</li> <li>• Understands hundredths can be made by dividing tenths into 10 equal parts.</li> <li>• Can find and place hundredths on a number line.</li> <li>• Can use hundredths in money and measure</li> <li>• Can compare and order numbers to 2dp</li> </ul>	<p>*Recap year 3 decimals unit and look at counting in tenths</p> <p>*Using money, base 10 or a bead string investigate a hundredth as a fraction and a decimal (1 out of 100 beads is <math>\frac{1}{100}</math> or 0.01 because we have 1 in the hundredth column</p> <p>*Positioning hundredths on a number line and using this to order and compare decimals to 2 dp</p> <p>*Positioning decimals to 1 dp on a number line and using this to discuss which whole number this decimal would round to</p>
Recognise and write decimal equivalents of any number of tenths or hundredths		<ul style="list-style-type: none"> <li>• Can identify and calculate <math>\frac{1}{10}</math> as a decimal</li> <li>• Can identify the pattern when finding other tenths.</li> <li>• Can identify and calculate <math>\frac{1}{100}</math> as a decimal</li> <li>• Can identify the pattern when finding other hundredths.</li> </ul>	<p>*Identifying where 0.5, 0.25 and 0.75 would be on a number line and discussing that these are positioned at <math>\frac{1}{2}</math>,</p>
Recognise and write decimal equivalents to $\frac{1}{4}$ , $\frac{1}{2}$ and $\frac{3}{4}$		<ul style="list-style-type: none"> <li>• Can recall decimal equivalent to <math>\frac{1}{2}</math></li> <li>• Can recall decimal equivalent to <math>\frac{1}{4}</math></li> <li>• Can recall decimal equivalent to <math>\frac{3}{4}</math></li> </ul>	<p><math>\frac{1}{4}</math> and <math>\frac{3}{4}</math> points on the number line</p> <p>*Dividing a 1 or 2-digit number by 10 or 100 and reading the answer as ones, tenths and hundredths</p>
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	<p>MD–1 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>	<ul style="list-style-type: none"> <li>• Can explain the effect of dividing a one-digit number by 10</li> <li>• Can explain the effect of dividing a two-digit number by 10</li> <li>• Can explain the effect of dividing a one-digit number by 100</li> </ul>	<p>*Connecting tenths and hundredths – how many hundredths are there in a tenth?</p> <p>*Linking to money – how many 10p are in a pound? How many 1p are in a pound</p>

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		<ul style="list-style-type: none"> <li>• Can explain the effect of dividing a two-digit number by 100</li> </ul>	<p>*Comparing different amounts of money ^recapping calculating strategies from number unit to calculate with money to 2 dp *Solve problems involving money</p>
Round decimals with one decimal place to the nearest whole number		<ul style="list-style-type: none"> <li>• Can identify the nearest whole number to a one decimal place number.</li> </ul>	
Compare numbers with the same number of decimal places up to two decimal places		<ul style="list-style-type: none"> <li>• Can compare and order 1 dp numbers on a number line. Can compare 2dp numbers on a number line</li> </ul>	
Estimate, compare and calculate different measures, including money in pounds and pence		<ul style="list-style-type: none"> <li>• Can use decimal place value knowledge to compare different measures.</li> <li>• Can calculate with measures</li> </ul>	
Solve simple measure and money problems involving fractions and decimals to two decimal places.		<ul style="list-style-type: none"> <li>• Knows how many 10ps are in a £1</li> <li>• Knows how many 1ps are in a £1</li> <li>• Knows how many centimetres are in a metre.</li> <li>• Can solve problems involving money to 2dp</li> <li>• Can solve problems involving length to 2dp</li> </ul>	

### Block 9

#### Measure – Length, Perimeter and Area

Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
National Curriculum			
Convert between different units of	No specific Ready to Progress statements for Length and Perimeter	<ul style="list-style-type: none"> <li>• Knows and understands the relationships between familiar units of measurement</li> </ul>	Consider links to PE/Sports Day, Olympics/Commonwealth Games

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<p>measure [for example, kilometre to metre; hour to minute]</p>	<p>but use the opportunity to consolidate prior statements as appropriate e.g. NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying</p>	<ul style="list-style-type: none"> <li>• Can use multiplication and division to aid conversion.</li> <li>• Can convert km into m and vice versa.</li> <li>• Can suggest the most appropriate unit of measure.</li> </ul>	<p><b>Length</b></p> <ul style="list-style-type: none"> <li>*Explore tools for measuring length</li> <li>*Explore vocab for measuring length</li> <li>*Model units of length</li> <li>*Read scales</li> <li>*Measure in metres</li> <li>*Measure in mm/cm</li> <li>*Discuss km</li> <li>*Explore how many cm in a m, m in a km</li> <li>*Convert measures in cm to m, m to km, km to m based on place value and decimal work</li> <li>*Work out equivalent lengths using conversions</li> <li>*Order and compare lengths using conversion</li> <li>*Addition and subtraction problems linked to length.</li> <li>*Multiplication and division problems linked to length.</li> </ul> <p><b>Perimeter</b></p> <ul style="list-style-type: none"> <li>*Measure perimeter</li> <li>*Find perimeters using addition and multiplication knowledge.</li> <li>*Work out the perimeter of irregular shapes by breaking them down into smaller rectilinear shapes</li> </ul> <p><b>Area</b></p> <ul style="list-style-type: none"> <li>*Find the area of a rectangle by counting squares.</li> </ul>
<p>Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.</p>	<p>the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.  NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts</p>	<ul style="list-style-type: none"> <li>• Can measure sides of a rectangle to calculate the perimeter.</li> <li>• Can generalise about the perimeter of a rectangle using words and symbols.</li> <li>• Can use the formulae <math>2(L+W)</math> to calculate perimeter of a rectangle. Can work out the perimeter of irregular shapes.</li> </ul>	
<p>Find the area of rectilinear shapes by counting squares</p>	<p>MD-1 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>	<ul style="list-style-type: none"> <li>• Can relate area to arrays and multiplication.</li> <li>• Can find the area of a rectangle by counting squares. Can generalise about the area of a rectangle using words and symbols.</li> </ul>	
<p>Estimate, compare and calculate different measures, including money in pounds and pence</p>		<ul style="list-style-type: none"> <li>• Can use decimal place value knowledge to compare different measures.</li> <li>• Can calculate with measures</li> </ul>	

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Blocks 10 and 11			
Geometry			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.	<p>Can recall and recognise in a variety of shapes that:</p> <ul style="list-style-type: none"> <li>• an equilateral triangle has three equal sides and three equal angles</li> <li>• isosceles triangles have two equal sides and two equal angles</li> <li>• right angled triangles have one right angle</li> <li>• scalene triangles have no equal sides and no equal angles</li> <li>• triangles cannot have more than one obtuse angle</li> <li>• squares have four equal sides and four right angles</li> <li>• rectangles have two pairs of equal and parallel sides and four right angles</li> <li>• parallelograms have two pairs of equal and parallel sides</li> <li>• rhombuses have four equal sides, two pairs of parallel sides</li> <li>• trapeziums have one pair of parallel sides</li> <li>• kites have two pairs of equal sides which are adjacent, two equal angles</li> <li>• Can recall the names of other polygons and their associated numbers of sides</li> </ul>	<p>*Recap 2D shape – names and properties of shapes (regular and irregular shapes)</p> <p>*Recognising angles (obtuse, acute and right angles)</p> <p>*Identifying angles in shapes</p> <p>*Investigating triangles, classifying and sorting</p> <p>*Investigating quadrilaterals, classifying and sorting</p> <p>*Investigating symmetrical patterns (one line of symmetry, 2 lines of symmetry, line of symmetry parallel to gridlines, line of symmetry at an angle to the gridlines)</p> <p>*Exploring symmetry in shapes</p> <p>*Using coordinates to position points and to read the position of points using the language of x and y axis</p>

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<p>Identify acute and obtuse angles and compare and order angles up to two right angles by size</p>		<ul style="list-style-type: none"> <li>• Can identify acute angles on their own and within shapes</li> <li>• Can identify obtuse angles on their own and within shapes</li> <li>• Can compare two or more angles up to 180°</li> </ul>	<p>*Can use knowledge of properties of shapes to plot a missing coordinate of a given polygon</p> <p>*Can use the language of coordinates and positional language to describe how a shape has been translated</p>
<p>Identify lines of symmetry in 2-D shapes presented in different orientations</p>	<p>G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</p>	<ul style="list-style-type: none"> <li>• Can recall and recognise in different shapes that:</li> <li>• A square has four lines of symmetry</li> <li>• A rectangle has two lines of symmetry</li> <li>• A rhombus has two lines of symmetry</li> <li>• A parallelogram has no lines of symmetry</li> <li>• A trapezium may or may not have a line of symmetry</li> <li>• A kite has one line of symmetry</li> <li>• An equilateral triangle has three lines of symmetry</li> <li>• An isosceles triangle has one line of symmetry</li> <li>• A regular polygon has the same of lines of symmetry as it has sides</li> </ul>	<p>*Can translate a shape when given coordinates and positional language</p>
<p>Complete a simple symmetric figure with respect to a specific line of symmetry</p>		<p>Can complete a pattern drawn on a square grid with:</p> <ul style="list-style-type: none"> <li>• one line of symmetry drawn parallel to the gridlines</li> <li>• one line of symmetry drawn at an angle to the gridlines</li> <li>• two lines of symmetry</li> </ul>	
<p>Describe positions on a 2-D grid as coordinates in the first quadrant</p>		<ul style="list-style-type: none"> <li>• Can distinguish between the x and y axis.</li> <li>• Can draw a pair of axes in one quadrant with equal scales and integer labels.</li> </ul>	
<p>Describe movements between positions as</p>	<p>G–1 Draw polygons, specified by coordinates in the first quadrant,</p>	<ul style="list-style-type: none"> <li>• Can describe position of a vertex of a 2D shape in the first quadrant using a pair of coordinates.</li> </ul>	

## Year 4 – Mathematics Intent

translations of a given unit to the left/right and up/down	and translate within the first quadrant	<ul style="list-style-type: none"> <li>• Can translate a shape using left/right and up/down</li> </ul>	
Plot specified points and draw sides to complete a given polygon		<ul style="list-style-type: none"> <li>• Can use properties of shape to complete the vertices of a simple shape.</li> </ul>	

Block 12			
Measure – Time			
Substantive Knowledge  National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Convert between different units of measure [for example, kilometre to metre; hour to minute]		<ul style="list-style-type: none"> <li>• Knows and understands the relationships between familiar units of measurement</li> <li>• Can use multiplication and division to aid conversion</li> <li>• Can convert an hour into minutes and vice versa</li> <li>• Can suggest the most appropriate unit of measure</li> </ul>	<p>*Discuss units of time - how long is a minute, a second, an hour, a day? etc</p> <p>*Suggest sensible estimates for things that you could do in a minute, a second, an hour</p> <p>*Suggest how long it would take to do certain tasks. Time these tasks to see how accurate your predictions were</p> <p>*Discuss conversions (how many seconds in a minute, minutes in an hour, etc)</p>
Read, write and convert time between analogue and digital 12- and 24-hour clocks		<ul style="list-style-type: none"> <li>• Can read and understand 24-hour time</li> <li>• Can relate 24 hr notation to am and pm</li> </ul> <p>Can covert 12 hr into 24 hour and vice versa</p>	<p>*Convert times given in seconds to minutes, minutes to hours, etc</p> <p>*Read analogue and digital clocks to the nearest minute. Convert digital to analogue time and analogue to digital time.</p>

## Year 4 – Mathematics Intent

Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days		<ul style="list-style-type: none"><li>• Can solve problems involving familiar conversions</li></ul> Can interpret the answer in more than one measure	*Look at the 24-hour clock and 12-hour clock with am and pm displayed. Convert between 12 and 24-hour times. *Solving real life problems involving reading and converting time
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\*Continue to revise Year 3 Measure: mass and capacity objectives through retrieval sessions.