

## Maths Medium Term Planning

<b>Key Knowledge</b>	
<b>Number – number and place value</b>	<p>Pupils should be taught to</p> <ul style="list-style-type: none"> <li>count in multiples of 6, 7, 9, 25 and 1000</li> <li>find 1000 more or less than a given number</li> <li>count backwards through zero to include negative numbers</li> <li>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li>order and compare numbers beyond 1000</li> <li>identify, represent and estimate numbers using different representations</li> <li>round any number to the nearest 10, 100 or 1000</li> <li>solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li>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.</li> </ul>
<b>Number – addition and subtraction</b>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li>estimate and use inverse operations to check answers to a calculation</li> <li>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>
<b>Number – multiplication and division</b>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>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</li> <li>recognise and use factor pairs and commutativity in mental calculations</li> <li>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> <li>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 <math>n</math> objects are connected to <math>m</math> objects.</li> </ul>
<b>Number – fractions</b>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>recognise and show, using diagrams, families of common equivalent fractions</li> <li>count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> </ul>

	<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</p> <p>add and subtract fractions with the same denominator</p> <p>recognise and write decimal equivalents of any number of tenths or hundredths</p> <p>recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math></p> <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> <p>round decimals with one decimal place to the nearest whole number</p> <p>compare numbers with the same number of decimal places up to two decimal places</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p>
<b>Measurement</b>	<p>Pupils should be taught to:</p> <p>Convert between different units of measure [for example, kilometre to metre; hour to minute]</p> <p>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p>find the area of rectilinear shapes by counting squares</p> <p>estimate, compare and calculate different measures, including money in pounds and pence</p> <p>read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p>
<b>Geometry</b>	<p>Pupils should be taught to:</p> <p>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <p>identify acute and obtuse angles and compare and order angles up to two right angles by size</p> <p>identify lines of symmetry in 2-D shapes presented in different orientations</p> <p>complete a simple symmetric figure with respect to a specific line of symmetry.</p> <p>Pupils should be taught to:</p> <p>describe positions on a 2-D grid as coordinates in the first quadrant</p> <p>describe movements between positions as translations of a given unit to the left/right and up/down</p> <p>plot specified points and draw sides to complete a given polygon</p>
<b>Statistics</b>	<p>Pupils should be taught to:</p> <p>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>

Year group 4	Number	Measure	Geometry	Statistics
Autumn 1	<p><b><u>Place value</u></b></p> <ul style="list-style-type: none"> <li>• count in multiples of 6, 7, 9, 25 and 1000</li> <li>• find 1000 more or less than a given number</li> <li>• count backwards through zero to include negative numbers</li> <li>• recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li>• order and compare numbers beyond 1000</li> <li>• identify, represent and estimate numbers using different representations</li> <li>• round any number to the nearest 10, 100 or 1000</li> <li>• solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li>• read Roman numerals to 100 (I to C) and know that over time, the numeral system</li> <li>• changed to include the concept of zero and place value.</li> </ul> <p><b><u>Addition and subtraction</u></b></p> <ul style="list-style-type: none"> <li>• add and subtract numbers with up to 4 digits using the formal written methods of</li> <li>• columnar addition and subtraction where appropriate</li> <li>• estimate and use inverse operations to check answers to a calculation</li> <li>• solve addition and subtraction</li> </ul>			

	<p>two-step problems in contexts, deciding which</p> <ul style="list-style-type: none"> <li>operations and methods to use and why.</li> </ul>			
<p><b>Autumn 2</b></p>	<p><b><u>Multiplication and division</u></b></p> <ul style="list-style-type: none"> <li>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>use place value, known and derived facts to multiply and divide mentally, including: <ul style="list-style-type: none"> <li>multiplying by 0 and 1; dividing by 1; multiplying together three numbers</li> </ul> </li> <li>recognise and use factor pairs and commutativity in mental calculations</li> <li>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> <li>solve problems involving multiplying and adding, including using the distributive law</li> <li>to multiply two digit numbers by one digit, integer scaling problems and harder</li> <li>correspondence problems such as n objects are connected to m objects.</li> </ul>	<p><b><u>Area</u></b></p> <ul style="list-style-type: none"> <li>find the area of rectilinear shapes by counting squares</li> </ul>		
<p><b>Spring 1</b></p>	<p><b><u>Multiplication and division</u></b></p> <ul style="list-style-type: none"> <li>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>use place value, known and derived facts to multiply and divide mentally, including: <ul style="list-style-type: none"> <li>multiplying by 0 and 1; dividing by 1; multiplying together three numbers</li> </ul> </li> <li>recognise and use factor pairs and commutativity in mental calculations</li> <li>multiply two-digit and three-digit</li> </ul>	<p><b><u>Length and perimeter</u></b></p> <ul style="list-style-type: none"> <li>Convert between different units of measure [for example, kilometre to metre]</li> <li>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> </ul>		

	<p>numbers by a one-digit number using formal written layout</p> <ul style="list-style-type: none"> <li>• solve problems involving multiplying and adding, including using the distributive law</li> <li>• to multiply two digit numbers by one digit, integer scaling problems and harder</li> <li>• correspondence problems such as n objects are connected to m objects.</li> </ul>			
<p><b>Spring 2</b></p>	<p><b><u>Fractions</u></b></p> <ul style="list-style-type: none"> <li>• recognise and show, using diagrams, families of common equivalent fractions</li> <li>• count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> <li>• 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</li> <li>• add and subtract fractions with the same denominator</li> </ul> <p><b><u>Decimals</u></b></p> <ul style="list-style-type: none"> <li>• recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>• recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li> <li>• 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</li> </ul>			

	<p>hundredths</p> <ul style="list-style-type: none"> <li>• round decimals with one decimal place to the nearest whole number</li> <li>• compare numbers with the same number of decimal places up to two decimal places</li> <li>• solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>			
<p><b>Summer 1</b></p>	<p><b><u>Decimals</u></b></p> <ul style="list-style-type: none"> <li>• recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>• recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li> <li>• 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</li> <li>• round decimals with one decimal place to the nearest whole number</li> <li>• compare numbers with the same number of decimal places up to two decimal places</li> <li>• solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>	<p><b><u>Money</u></b></p> <ul style="list-style-type: none"> <li>• estimate, compare and calculate different measures, including money in pounds and pence</li> </ul> <p><b><u>Time</u></b></p> <ul style="list-style-type: none"> <li>• read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</li> </ul>		
<p><b>Summer 2</b></p>			<p><b><u>Shape</u></b></p> <ul style="list-style-type: none"> <li>• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>• identify acute and obtuse angles and</li> </ul>	<p><b><u>Statistics</u></b></p> <ul style="list-style-type: none"> <li>• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</li> <li>• solve comparison, sum and difference</li> </ul>

			<p>compare and order angles up to two right angles by size</p> <ul style="list-style-type: none"> <li>• identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>• complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul> <p><b><u>Position and direction</u></b></p> <ul style="list-style-type: none"> <li>• describe positions on a 2-D grid as coordinates in the first quadrant</li> <li>• describe movements between positions as translations of a given unit to the left/right and up/down</li> <li>• plot specified points and draw sides to complete a given polygon.</li> </ul>	<p>problems involving information presented in bar charts, pictograms, tables and other graphs.</p>
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<b>GDS Opportunities</b>	(See Teaching for Mastery - NECTM document)
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