

# Moorgate Primary Academy

## Year 6 Maths Long Term Overview



| Year 6 – Autumn                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                |
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| <b><u>Place value within 10,000,000</u></b><br>-Learn about place value in number up to 10,000,000<br>-Partition numbers up to 10,000,000 and solve problems in real-life contexts<br>-Deepen understanding of the key place value units: 10s, 100s and 1,000s<br>-Place numbers up to 10,000,000 on a number line<br>-Compare and order numbers up to 10,000,000<br>-Round numbers up to 10,000,000<br>-Learn about negative numbers and their relationship with positive numbers | <b><u>Four operations (1)</u></b><br>-Rehearse and refine efficient written methods for the addition of whole numbers<br>-Refine and rehearse use of column method for addition and subtraction<br>-Solve multi-step addition and subtraction problems<br>-Develop understanding of factors and how common factors link two or more numbers<br>-Develop understanding of multiples and how common multiples link two or more numbers<br>-Recognise the properties of numbers that can be used to deduce their divisibility by 2, 3, 5 and other factors<br>-Identify prime numbers up to 100<br>-Recognise and identify square and cube numbers | <b><u>Four operations (2)</u></b><br>-Multiply a 4 digit number by a 1 and 2 digit number<br>-Use a written short division method<br>-Use factors of the divisor in order to divide efficiently<br>-Divide a 3 and 4 digit number by a 2 digit number using long division<br>-Complete long division with remainders<br>-Learn the correct order of operations and use this to help solve multi-step calculations<br>-Investigate the effect brackets have on a calculation<br>-Learn efficient mental methods for solving calculations with smaller numbers, including decimals<br>-Learn efficient methods for solving calculations with larger numbers, up to 1,000,000<br>-Reason from known facts | <b><u>Fractions (1)</u></b><br>Use common factors to simplify fractions<br>-Count in fractions up and down on a number line and place missing fraction on a number line<br>-Comparing and ordering fractions with different numerators and denominators<br>-Add and subtract fractions<br>-Add mixed numbers where the answer is greater than 1<br>-Subtract mixed numbers<br>-Solve multi-step problems that involve adding and subtracting mixed numbers<br>- | <b><u>Fractions (2)</u></b><br>-Multiply proper and improper fractions and mixed numbers by a whole number<br>-Multiply a fraction by a fraction<br>-Divide a fraction by an integer<br>-Solve fraction problems involving the four operations.<br>-Find a fraction of an amount including problems where children have to find the whole given information about a part | <b><u>Measure – Imperial and metric</u></b><br>-Read, write and recognise all metric measures for length, mass and capacity.<br>-Convert between metric units of measurement, including decimals<br>-Calculate with metric measurements<br>-Learn the ratio between miles and kilometres<br>-Convert between imperial measures |
| Year 6 - Spring                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                |
| <b><u>Ratio and Proportion</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b><u>Algebra</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b><u>Decimals</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b><u>Percentages</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b><u>Measure – Perimeter, area and volume</u></b>                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                |

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| <ul style="list-style-type: none"> <li>-Use the language of ratio to describe and compare the different parts within a whole</li> <li>-Compare ratios, explore different representations of ratio and identify ratios from given amounts or diagrams</li> <li>-Use ratio to calculate totals and amounts and consider the different methods that can be used.</li> <li>-Interpret scales on maps and plans. Measure lines on the map or plan and calculate the length in real life</li> <li>-Apply scale factors to calculate measurements</li> <li>-Identify if shapes are similar, deduce scale factors and draw similar shapes</li> <li>-Use ratios to deduce quantities</li> <li>-Solve problems involving proportion where the scale is not a whole number. Use knowledge of fractions and multiples to compare and discuss different methods to solve the same question</li> <li>-Solve a range of multi-step problems using ratio.</li> </ul> | <ul style="list-style-type: none"> <li>-Investigate number sequences and identify the algebraic rule that governs them. They will learn how to write these rules in a form that allows them to be applied generally.</li> <li>-Find a rule for a number sequence that has more than one step. Represent these sequences in a concrete, pictorial or abstract manner.</li> <li>-Apply understanding of algebraic rules and investigate how they can be used to solve an generalise a contextual problem</li> <li>-Use understanding of using algebraic rules to find the nth term in an algebraic sequence</li> <li>-Find and record algebraic formulae</li> <li>-Read, understand and solve algebraic equations.</li> <li>-Use the inverse to find a missing number in an equation</li> <li>-Create algebraic equations based on contextual word problems. Use this to find missing numbers in 2-step equations</li> <li>-Children will use their understanding of creating algebraic equations to create equations they can use to find all</li> </ul> | <ul style="list-style-type: none"> <li>-Rehearse the place value of numbers to 3 decimal places</li> <li>-Round decimals to 2 decimal places</li> <li>-Add and subtract decimals</li> <li>-Multiply and divide decimals by 10, 100 and 1000.</li> <li>-Multiply and divide decimals by a whole number</li> <li>-Convert fractions to decimals and decimals to fractions where the denominator is a power of 10.</li> <li>-Calculate decimal equivalents of a fraction by dividing the numerator by the denominator</li> </ul> | <ul style="list-style-type: none"> <li>-Work with fractions that are shown as 'out of 100' and express these as percentages</li> <li>-Convert fractions to percentages</li> <li>-Find equivalent fractions, decimals and percentages and convert between them</li> <li>-Order fractions, decimals and percentages</li> <li>-Find percentages of an amount</li> <li>-Find missing values in problems involving percentages</li> </ul> | <ul style="list-style-type: none"> <li>-Find the area and perimeter of 2D shapes</li> <li>-Apply knowledge of perimeter to find missing lengths</li> <li>-Find the area of a triangle</li> <li>-Find the area of a parallelogram</li> <li>-Apply knowledge of area to solve problems, in particular when calculating the area of a composite shape or when finding missing measurements for a given area.</li> <li>-Apply their knowledge of perimeter to solve problems, in particular when calculating unknown lengths and perimeters of composite rectilinear shapes.</li> <li>-Calculate the volume of cuboids and explore different shapes with the same volume.</li> <li>-Calculate the volume of shapes using a formula</li> <li>-</li> </ul> |
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| Year 6 - Summer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                          |  |
| <u><b>Statistics</b></u><br>-Read and interpret line graphs<br>-Draw line graphs<br>-Interpret bar charts by exploring more advanced examples<br>-Understand and complete pie charts<br>-Read and interpret pie charts<br>-Calculate the fractions represented by pie charts. Compare categories by converting them into fractions of the pie charts<br>-Learn that the whole pie chart is represented by 100%. Compare and convert percentages of the pie chart to fractions. Use percentages to calculate the value of each category.<br>-Use the term 'mean' to find the average<br>-Calculate the mean from given data.<br>-Problem solve involving finding the mean<br>- | <u><b>Geometry – Properties of shape</b></u><br>-Measure and classify angles using a protractor<br>-Extend understanding of angles to discover that vertically opposite angles are equal<br>-Understand that angles in a triangle total 180 degrees<br>-Find missing angles in a triangle<br>-Understand that the interior angles of a quadrilateral equal 360 degrees<br>-Calculate the sum of interior angles in other polygons<br>-Learn the definition of radius and diameter of a circle<br>-Draw shapes using a ruler and a protractor, including using dotted paper<br>-Identify shapes from their net and draw their own nets | <u><b>Geometry –position and direction</b></u><br>-Plot coordinates in the first quadrant<br>-Read and plot points in four quadrants<br>-Translate shapes on a coordinate grid<br>-Reflect shapes on a coordinate grid<br>-Solve problems with coordinates | <u><b>Themed projects, consolidation and problem solving</b></u><br><u><b>Revision</b></u><br>Problem solving unit in Power Maths book covers problem solving across all the units.<br>- Place Value<br>- Four Operations<br>- Measure<br>- Shape<br>- Fractions<br>- Percentages<br>- Ratio and Proportion<br>- Algebra |  |