

## Year 6 - Autumn Term MTP



|         | Starter & Counting  | O&M or reasoning activity  | Main Focus & Independent work   | Arithmetic (teach on Monday, test on Friday) |
|---------|---|--|---|--|
| Week 1  | Each day there is a 'While you wait' starter activity on the board to promote fluency, e.g. 'Fluent in 5'. There is a short daily counting activity, e.g. selected times table and related divisions, number sequences, counting forwards and backwards in 10s, 100s, 1,000s etc. | These activities are planned using formative assessment and Big Maths assessment. To be discussed and agreed in year groups. | Place value:<br>* Read, write and order numbers to 10,000,000<br>* Value of digits<br>* Round numbers                           | Adding and subtracting 10, 100, 1000         |
| Week 2  |   |  | Four operations:<br>* Formal methods for addition, subtraction, multiplication and division                                     | 4 operations                                 |
| Week 3  |   |  | Four operations:<br>* Negative numbers and differences<br>* Factors, multiples and primes (prime factor trees)                  | Short division/long division                 |
| Week 4  |   |  | Fractions:<br>* Simplify fractions<br>* Improper fractions to mixed and vice versa<br>* Fraction/decimal/percentage equivalence | Short division/long division                 |
| Week 5  |   |  | Fractions:<br>* 4 operations with fractions<br>* Fraction word problems   | Multiplication (1 and 2 digit numbers)       |
| Week 6  |   |  | Ratio and Proportion:<br>* Percentages of amounts<br>* Scale factors (measures)<br>* Scale factor investigation                 | 4 operations                                 |
| Week 7  |   |  | Four operations:<br>* Properties of number – Prime, Factor, Multiple<br>* Addition and subtraction                              | Multiplication (by 2 digits)                 |
| Week 8  |   |  | Four operations:<br>* Multiplication and division<br>* BODMAS<br>* Solving multi step problems                                  | Long division                                |
| Week 9  |   |  | Fractions:<br>* 4 operations<br>* Solving fraction problems in context.<br>* Fractions of amounts.                              | Long division                                |
| Week 10 |   |  | Fractions, decimals and percentages:<br>* Equivalence<br>* Percentages of amounts<br>* Problems in context                      | 4 operations                                 |

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| Week<br>11 |  |  | Ratio and Proportion:<br>* Scale factor of shapes<br>* Ratio probs, e.g. recipes<br>Measure<br>* Area and perimeter                                      | Adding and<br>subtracting<br>fractions   |
| Week<br>12 |  |  | Algebra:<br>* Express missing number problems<br>algebraically.<br>* Give numbers to satisfy unknowns.<br>Geometry:<br>* Properties of shapes.<br>* Nets | Multiplying<br>and dividing<br>fractions |

## Year 6 - Spring Term MTP

|        | Starter & Counting   | O&M or reasoning activity   | Main Focus & Independent work   | Arithmetic (teach on Monday, test on Friday)               |
|--------|--|---|---|--|
| Week 1 | <p>Each day there is a 'While you wait' starter activity on the board to promote fluency, e.g. 'Fluent in 5'</p> <p>There is a short daily counting activity, e.g. selected times table and related divisions, number sequences, counting forwards and backwards in 10s, 100s, 1,000s etc.</p> | <p>These activities are planned using formative assessment and Big Maths assessment. To be discussed and agreed in year groups.</p> | Ratio and measure: <ul style="list-style-type: none"> <li>* Using ratio to compare values.</li> <li>* Metric equivalence and conversions</li> <li>* Create scale drawings.</li> </ul>   | Multiplication (x 2 digits)                                |
| Week 2 |  |   | Measure: <ul style="list-style-type: none"> <li>* Area and perimeter of rectangles and compound shapes.</li> <li>* Area of parallelograms and triangles.</li> <li>* Volumes of cubes and cuboids.</li> </ul>  | Long division  |
| Week 3 |  |   | Geometry: <ul style="list-style-type: none"> <li>* Estimate, measure and draw given angles.</li> <li>* Find missing angles around a point/straight line.</li> <li>* Find unknown angles in 2D shapes.</li> <li>* Identify the circumference, radius and diameter of circles.</li> <li>* Draw circles with a given circumference or diameter.</li> </ul> | Adding and subtracting fractions (including mixed numbers) |
| Week 4 |  |   | Position: <ul style="list-style-type: none"> <li>* Read and plot coordinates in the 4 quadrants.</li> <li>* Translate and reflect shapes.</li> </ul>  | Multiplying and dividing fractions                         |
| Week 5 |  |   | Statistics: <ul style="list-style-type: none"> <li>* Interpret pie charts</li> <li>* Construct pie charts</li> <li>* Calculate and interpret the mean.</li> <li>* Use a line graph for conversions.</li> </ul>  | Percentage of amounts                                      |
| Week 6 |  |   | Numbers and number properties: <ul style="list-style-type: none"> <li>* Place value – related facts</li> <li>* Add and subtract negative numbers</li> <li>* Factors and common factors</li> <li>* Order numbers (including decimals)</li> </ul>   | 4 operations – including missing number problems           |
| Week 7 |  |   | Fractions, decimals and percentages: <ul style="list-style-type: none"> <li>* Calculate equivalence between fractions, decimals and percentage.</li> <li>* Solve fractions and percentage problems</li> </ul> Algebra: <ul style="list-style-type: none"> <li>* Describe a pattern and find a rule.</li> <li>* Use algebraic formulae</li> </ul>        | Adding and subtracting fractions (including mixed numbers) |
| Week 8 |  |   | Measure and Ratio: <ul style="list-style-type: none"> <li>* Know equivalent metric units and convert between them.</li> </ul>   | Ordering pairs of fractions                                |

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|         |  |  | <ul style="list-style-type: none"> <li>* Know and use conversions between metric and imperial measures.</li> <li>* Use ratio to compare values and create scale drawings.</li> </ul>  | ( and identifying equivalent fractions) |
| Week 9  |  |  | <p>Measure:</p> <ul style="list-style-type: none"> <li>* Area and perimeter of shapes problems.</li> <li>* Calculate the volume of 3D shapes.</li> </ul> <p>Geometry:</p> <ul style="list-style-type: none"> <li>* Recognise the properties of 3D shapes</li> <li>* Identify nets of 3D shapes</li> </ul> | Multiplying and dividing fractions      |
| Week 10 |  |  | Problem solving and investigations  | Percentages of amounts                  |

## Year 6 - Summer Term MTP

|         | Starter & Counting   | O&M or reasoning activity   | Main Focus & Independent work   | Arithmetic (teach on Monday, test on Friday) |
|---------|--|---|---|--|
| Week 1  | <p>Each day there is a 'While you wait' starter activity on the board to promote fluency, e.g. 'Fluent in 5'</p> <p>There is a short daily counting activity, e.g. selected times table and related divisions, number sequences, counting forwards and backwards in 10s, 100s, 1,000s etc.</p> | <p>These activities are planned using formative assessment and Big Maths assessment. To be discussed and agreed in year groups.</p> | <p>Geometry:</p> <ul style="list-style-type: none"> <li>* Measure and construct angles</li> <li>* Solve problems with missing angles</li> </ul>   | Multiplying and dividing decimals            |
| Week 2  |  |   | <p>Measure:</p> <ul style="list-style-type: none"> <li>* Solve problems involving area, perimeter and volume</li> </ul> <p>Ratio:</p> <ul style="list-style-type: none"> <li>* Solve ratio and scale factor problems</li> </ul> | Adding and subtracting decimals              |
| Week 3  |  |   | <p>Fractions:</p> <ul style="list-style-type: none"> <li>* Solve fraction, decimal and percentage problems</li> </ul>   | Comparing and ordering fractions             |
| Week 4  |  |   | <p>Algebra:</p> <ul style="list-style-type: none"> <li>* Generate and describe number sequences</li> <li>* Express and solve problems involving algebra</li> </ul>  | Fractions of amounts                         |
| Week 5  |  |   | <p>Statistics:</p> <ul style="list-style-type: none"> <li>* Collect, present and interpret data</li> </ul>  | Missing numbers                              |
| Week 6  |  |   | <p>Geometry:</p> <ul style="list-style-type: none"> <li>* Explore shapes and their properties</li> <li>* Visualisation</li> <li>* Solve shape problems</li> </ul>   | BODMAS                                       |
| Week 7  |  |   | <p>Position:</p> <ul style="list-style-type: none"> <li>* Solve problems involving coordinates in the four quadrants.</li> <li>* Solve problems involving the position of shapes, using reflection and translation.</li> </ul>  | Four operations                              |
| Week 8  |  |   | Investigations  | Fractions - Four operations                  |
| Week 9  |  |   | Investigations  | Percentage of amounts                        |
| Week 10 |  |   | Investigations  | Measures – equivalence                       |
| Week 11 |  |   | Investigations  | Algebra – missing numbers                    |

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| Week<br>12 |  |  | Investigations | Four<br>operations |
|------------|--|--|----------------|--------------------|

### Planning

In addition to the MTP, there are **two assessment weeks to be added in for each term**. During these two weeks, maths lessons are used for assessment, investigations and to revisit any areas felt appropriate.

When planning, refer to the 'St Michaels Maths Progression Map' and the 'Calculation Policy' to ensure continuation, progression and variation

### **Resources to support planning:**

Maths No Problem, Power Maths, White Rose, Third Space learning and Nrich

<https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/>

If you click on the 'objective block' that you are covering on the table, it downloads a document which has the National Curriculum objectives broken down into small steps. It includes examples of varied fluency and reason and problem solving.

### Maths lessons at St Michael's

Daily maths lessons consist of:

- \* **a while you wait starter/fluent in five** - where the focus is on fluency.
- \* **a short counting activity**
- \* **a whole class oral and mental activity** (the objectives for these are taken from weekly formative assessment, e.g. big maths). This may be a problem solving or reasoning question to work through together or a practise of skills that will support with the lesson (e.g. an activity on multiplying and dividing by 10, 100 and 1,000 prior to the main lesson focus on measures).

\* **whole class teaching of the main objective followed by independent work.** Teaching is supported by the CPA (concrete, pictorial, abstract) approach where appropriate. Key vocabulary for the lesson is displayed on the smart slides and referenced during the lesson. Where appropriate, a 'stem sentence' is displayed on the smart slides which supports learning (e.g. for addition the stem sentence may be 'Add the smallest value first'; for coordinates 'The horizontal coordinate is first and the vertical coordinate second'; for adding and subtracting fractions 'Check that the denominators are the same before adding or subtracting').

\* **a 'finisher's challenge'** prepared (photocopied/on board) to extend and deepen the thinking of children who successfully complete the independent work. This challenge should provide the children with the opportunity to apply their understanding (rather than just giving 'bigger numbers').

In addition there are **two weekly arithmetic sessions**, one is a taught session and the other a skills practise session.