Year 6 - Autumn Term MTP

**If the first week back is not a full week then this should be used as additional days to cover the content of 'Week 1' and 'Week 2' so that there is closer to 3 weeks to cover the content.*

	Main Focus & Independent work
Week 1	Place value: • Read, write and order numbers to 10,000,000 • Value of digits • Round numbers
Week 2	Four operations: • Formal methods for addition, subtraction, (short) multiplication and (short) division
Week 3	Four operations and place value: • Negative numbers and differences • Factors, multiples and primes (prime factor trees)
Week 4	Fractions: • Equivalent fractions and Simplify fractions • Improper fractions to mixed and vice versa • Fraction/decimal/percentage equivalence
Week 5	Fractions: • 4 operations with fractions • Solve problems with fractions
Week 6	Ratio and Proportion: • Percentages of amounts • Scale factors (measures)
Week 7	Four operations: • Properties of number – Prime, Factor, Multiple • Addition and subtraction
Week 8	Four operations: • Multiplication and division (long) • BODMAS • Solving multi step problems
Week 9	Fractions: • 4 operations • Solving fraction problems in context. • Fractions of amounts.
Week 10	Fractions, decimals and percentages: • Equivalence • Percentages of amounts • Problems in context
Week 11	Ratio and Proportion: • Using and calculating scale factors • Ratio and proportion problems • Metric measures • Area and perimeter
Week 12	Algebra: • Express missing number problems algebraically. • Give numbers to satisfy unknowns. Geometry: • Properties of shapes. • Nets

Year 6 - Spring Term MTP

**If the first week back is not a full week then this should be used as additional days to cover the content of 'Week 1' and 'Week 2' so that there is closer to 3 weeks to cover the content.*

	Main Focus & Independent work
Week 1	Ratio and measure: • Using ratio to compare values. • Metric equivalence and conversions • Create scale drawings.
Week 2	Measure: • Area and perimeter of rectangles and compound shapes. • Area of parallelograms and triangles. • Volumes of cubes and cuboids.
Week 3	Geometry: • Estimate, measure and draw given angles. • Find missing angles around a point/straight line. • Find unknown angles in 2D shapes. • Identify the circumference, radius and diameter of circles. • Draw circles with a given circumference or diameter.
Week 4	Position: • Read and plot coordinates in the 4 quadrants. • Translate and reflect shapes.
Week 5	Statistics: • Interpret pie charts • Construct pie charts • Calculate and interpret the mean. • Use a line graph for conversions.
Week 6	Numbers and number properties: • Place value – related facts • Add and subtract negative numbers • Factors and common factors • Order numbers (including decimals)
Week 7	Fractions, decimals and percentages: • Calculate equivalence between fractions, decimals and percentage. • Solve fractions and percentage problems Algebra: • Describe a pattern and find a rule. • Use algebraic formulae
Week 8	Measure and Ratio: • Know equivalent metric units and convert between them. • Know and use conversions between metric and imperial measures. • Use ratio to compare values and create scale drawings.
Week 9	Measure: • Area and perimeter of shapes problems. • Calculate the volume of 3D shapes. Geometry: • Recognise the properties of 3D shapes • Identify nets of 3D shapes
Week 10	Problem solving and investigations

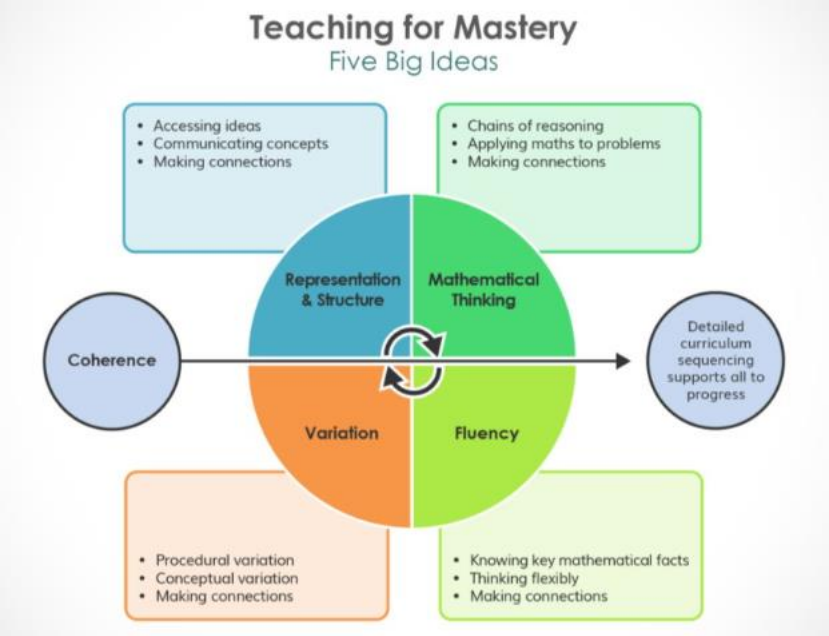
Year 6 - Summer Term MTP

	Main Focus & Independent work
Week 1	Geometry: • Measure and construct angles • Solve problems with missing angles
Week 2	Measure: • Solve problems involving area, perimeter and volume Ratio: • Solve ratio and scale factor problems
Week 3	Fractions: • Solve fraction, decimal and percentage problems
Week 4	Algebra: • Generate and describe number sequences • Express and solve problems involving algebra
Week 5	Statistics: • Collect, present and interpret data
Week 6	Geometry: • Explore shapes and their properties • Visualisation • Solve shape problems
Week 7	Position: • Solve problems involving coordinates in the four quadrants. • Solve problems involving the position of shapes, using reflection and translation.
Week 8	Investigations & consolidation
Week 9	Investigations & consolidation
Week 10	Investigations & consolidation
Week 11	Investigations & consolidation
Week 12	Investigations & consolidation

Maths at St Michael's V.A. Junior School

'We aim to develop a love of mathematics and create an atmosphere where all children strive to learn.'

At St Michael's we follow the 'Teaching for Mastery' approach, acquiring a deep, long-term, secure and adaptable understanding of the subject for all our pupils. We incorporate elements of 'The Five Big Ideas' throughout each lesson.



Every class has a daily maths lesson (1 hour in years 3, 4 and 5 and 1 ¼ hours in year 6). In addition, years 3, 4 and 5 have a daily mastering number session (10-15 minutes). Classes have a TTrockstars/Tackling tables session each week and year 6 also use Learning By Question.

Planning

We plan in line with our Maths Medium Term Plans and following our maths lesson structure. Planning is consistent across all classes within a year group. We do not follow a scheme but use a variety of resources to support our planning such as PowerMaths, White Rose and the NCETM.

Daily maths lesson structure

- **Fluency starter** – e.g fluent in 5; a set of questions where the focus is on fluency.
- **Short counting activity**
- **Whole class teaching of the main objective** - the lesson is sequenced in small cohesive steps with use of carefully selected representations. An appropriate stem sentence which supports the learning is displayed on the smart slides and referenced during the lesson. This part of the lesson is a 'ping pong' style with children having paired discussions and working on whiteboards to respond to questions.
- I**ndependent work –** a set of carefully selected questions, including procedural variation that are a natural progression from the main class teaching. All children complete the same questions; adaptation is through support and progression.
- **Finisher's challenge –** an activity/question to extend and deepen the thinking of children who successfully complete the independent work.

On a Friday, the main and independent part of the lesson has a reasoning starter and then an arithmetic focus.

Ingredients of a good maths lesson:

- Previous learning reviewed
- Whole class moving together
- Precise and accurate mathematical language
- Small steps (across and between lessons)
- Fluency of number facts
- Stem sentences
- Partner talk
- Representations and modelling of examples
- Physical resources
- Misconceptions and difficulty points highlighted
- Variation (conceptual and procedural) and non-examples
- Problems in context
- Depth/challenge questions and mathematical thinking
- Questions asked to expose structure
- Formative assessment and quick intervention

Interventions

- **Same day intervention** – a short input to address misconceptions and work through some examples with children who have 'not quite' grasped the content of the lesson. This takes place on the same day, after the maths lesson.
- **Pre-teach session** – a week 20 minute session for the lowest attaining pupils (15-20% of the year group) to pre-teach key skills required to access learning in the upcoming lessons.
- **Hot marking** – we check children's work throughout the maths lesson and provide verbal feedback to support learning.

Equity

We teach maths as a whole class, moving together and are adaptive in our approaches to enable equitable practice. These are some strategies that we use:

- **Pre-teach** – weekly pre-teach of key skills to support upcoming learning.
- **Revisit Prior learning** – linking concepts and providing small steps. Low threshold entry tasks.
- **Stem sentences –** shared and rehearsed together.
- **Partner talk** – Providing time to think, rehearse and clarify understanding.
- **Representations** – use of appropriate representations to expose structures.
- **Manipulatives** – available for all learners, to expose structures.
- **Maths mats** – containing key mathematical concepts and supporting representations.
- **Gestures** – supporting understanding and visualisation.

Assessment

Formative assessment takes place during each lesson and misconceptions are quickly addressed.

Summative assessment takes place termly in years 3, 4 and 5 using White Rose Assessments.

Summative assessment takes place half-termly in year 6 using past SATs papers.