Year 5 - Autumn Term MTP

**If the first week 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: • Numbers to 10,000 • Numbers to 100,000 • Numbers to 1,000,000 • Read and write numbers to 1,000,000 • Powers of 10 • 10/100/1,000/10,000/100,000 more or less
Week 2	Place value: • Partition numbers to 1,000,000 • Number line to 1,000,000 • Compare and order numbers to 100,000 • Compare and order numbers to 1,000,000 • Roman numerals to 1,000
Week 3	Addition and Subtraction: • Mental strategies • Add whole numbers with more than four digits • Subtract whole numbers with more than four digits • Round to check answers
Week 4	Addition and Subtraction: • Inverse operations (addition and subtraction) • Multi-step addition and subtraction problems • Compare calculations • Find missing numbers
Week 5	Statistics: • Draw line graphs • Read and interpret line graphs
Week 6	Multiplication and Division: • Multiples and common multiples • Factors and Common factors • Prime numbers • Square numbers and cube numbers
Week 7	Multiplication and Division: • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiples of 10, 100 and 1,000
Week 8	Multiplication and Division: • Multiply up to a 4 digit number by 1 digit • Short division • Solve problems with multiplication and division
Week 9	Fractions: • Find fractions equivalent to a unit fraction • Find fractions equivalent to a non-unit fraction • Recognise equivalent fractions • Convert improper fractions to mixed numbers • Convert mixed numbers to improper fractions
Week 10	Fractions:

	• Compare fractions less than 1 • Order fractions less than 1 • Compare and order fractions greater than 1 • Add and subtract fractions with the same denominator • Add fractions within 1 • Add fractions with total greater than 1
Week 11	Fractions: • Add to a mixed number • Add two mixed numbers • Subtract fractions • Subtract from a mixed number • Subtract from a mixed number - breaking the whole • Subtract two mixed numbers
Week 12	Measures: • Perimeter of rectangles • Step 2 Perimeter of rectilinear shapes • Step 3 Perimeter of polygons • Step 4 Area of rectangles • Step 5 Area of compound shapes • Step 6 Estimate area

Year 5 - Spring Term MTP

**If the first week 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	Multiplication and Division: • Multiply a 2-digit number by a 2-digit number (area model) • Multiply a 2-digit number by a 2-digit number • Multiply a 3-digit number by a 2-digit number • Multiply a 4-digit number by a 2-digit number • Solve problems with multiplication
Week 2	Multiplication and Division: • Short division • Divide a 4-digit number by a 1-digit number • Divide with remainders • Efficient division • Solve problems with multiplication and division
Week 3	Geometry: • Understand and use degrees • Classify angles • Estimate angles • Measure angles up to 180° • Draw lines and angles accurately • Calculate angles around a point • Calculate angles on a straight line
Week 4	Fractions: • Multiply a unit fraction by an integer • Multiply a non-unit fraction by an integer • Multiply a mixed number by an integer
Week 5	Fractions: • Calculate a fraction of a quantity • Fraction of an amount • Find the whole • Use fractions as operators
Week 6	Decimals and percentages: • Decimals up to 2 decimal places • Equivalent fractions and decimals (tenths) • Equivalent fractions and decimals (hundredths) • Equivalent fractions and decimals • Thousandths as fractions • Thousandths as decimals • Thousandths on a place value chart
Week 7	Decimals and percentages: • Understand percentages • Percentages as fractions • Percentages as decimals • Equivalent fractions, decimals and percentages
Week 8	Statistics: • Read and interpret tables • Two way tables • Read and interpret timetables
Week 9	Place Value and number: • Order and compare decimals • round numbers (including decimals) to the nearest whole number.

	• Round to 1 decimal place • Negative numbers • Roman numerals – recognising years
Week 10	Addition and Subtraction: • Multistep problems

Year 5 - Summer Term MTP

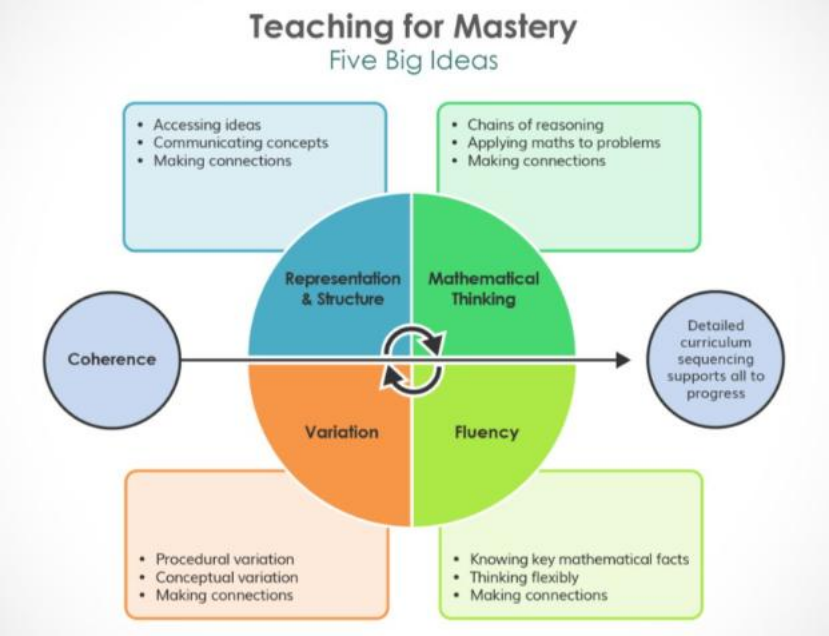
	Main Focus & Independent work
Week 1	Decimals: • Use known facts to add and subtract decimals within 1 • Complements to 1 • Add and subtract decimals across 1 • Add decimals with the same number of decimal places • Subtract decimals with the same number of decimal places • Add decimals with different numbers of decimal places • Subtract decimals with different numbers of decimal places
Week 2	Decimals: • Efficient strategies for adding and subtracting decimals • Decimal sequences • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply and divide decimals - missing values
Week 3	Measure: • Kilograms and kilometres • Millimetres and millilitres • Convert units of length • Convert between metric and imperial units • Convert units of time • Calculate with timetables
Week 4	Measure: • Cubic centimetres • Compare volume • Estimate volume • Estimate capacity
Week 5	Geometry: • Lengths and angles in shapes • Regular and irregular polygons • 3-D shapes
Week 6	Fractions (revisit): • Add, subtract and multiply fractions (including mixed numbers and improper factions) • Solve problems including calculating fractions of amounts.
Week 7	Fractions, decimals & percentages (revisit): • Solve problems which require knowing fraction, decimal and percentage equivalents
Week 8	Geometry: • Read and plot coordinates • Problem solving with coordinates • Translation • Translation with coordinates • Lines of symmetry • Reflection in horizontal and vertical lines
Week 9	Four operations • Solve problems involving the 4 operations • investigate properties of numbers (including, primes, factors, square numbers and cubed numbers)
Week 10	Statistics

	• Collect, present and interpret data in charts and graphs to solve a problem
Week 11	Measure • Solve problems involving area, perimeter and volume
Week 12	Investigations and 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.