St Michael's Priority Areas of Learning – Maths

What children must know before they leave each year group

This completed document identifies the core mathematical knowledge, reasoning and arithmetic that pupils must secure before moving into the next year group.

It is not a replacement for the full curriculum. It is a clear assessment, planning and intervention tool to help teachers know what to prioritise, revisit and secure.

Codes used across school

Code	Area	How it is used
NPV	Number and place value	Used to identify the priority strand in reasoning, fluency and intervention tasks.
NF	Number facts	Used to identify the priority strand in reasoning, fluency and intervention tasks.
AS	Addition and subtraction	Used to identify the priority strand in reasoning, fluency and intervention tasks.
MD	Multiplication and division	Used to identify the priority strand in reasoning, fluency and intervention tasks.
FDP	Fractions, decimals and percentages	Used to identify the priority strand in reasoning, fluency and intervention tasks.
G	Geometry	Used to identify the priority strand in reasoning, fluency and intervention tasks.
M/S	Measurement and statistics applications	Used to identify the priority strand in reasoning, fluency and intervention tasks.
ALG	Algebra	Used to identify the priority strand in reasoning, fluency and intervention tasks.
R/P	Ratio and proportion	Used to identify the priority strand in reasoning, fluency and intervention tasks.

How staff should use this document

Use	Meaning
Plan	Use the priority statements to check whether lessons revisit the key knowledge pupils must retain.
Assess	Use the quick checks in MOT, arithmetic, reasoning lessons, scoop groups and end-of-unit reviews.
Intervene	If pupils are not secure, return to the prior-year or prior-strand priority before moving on.
Communicate	Use the statements to explain expectations clearly to parents, governors and leaders.

Research-informed principles

What this document is based on

Principle	What it means at St Michael's
Coherence and progression	Priority knowledge is sequenced year by year so pupils connect prior learning to new learning and do not meet key ideas in isolation.
Fluency and automaticity	Pupils must secure core additive and multiplicative facts so working memory is freed for reasoning and problem-solving.
Representations and language	Teachers use consistent representations and precise mathematical language so pupils can explain the structure of the mathematics.
Reasoning and discussion	Pupils should explain, justify, prove and generalise, not only answer closed calculations.
Responsive support	Assessment should identify gaps early. Scoop groups and intervention should focus on the specific priority knowledge that is not yet secure.

Research and guidance base

Source	How it shaped this document
DfE Mathematics guidance: key stages 1 and 2	Ready-to-progress criteria were used as the backbone for end-of-year priority knowledge and assessment checks.
NCETM ready-to-progress exemplification	Priority criteria are treated as end-of-year goals and are suitable for review, practice and consolidation, including small-group work.
National Curriculum in England	The full curriculum remains statutory; these priorities support fluency, reasoning and access to wider mathematical content.
EEF Early Years/KS1 and KS2/3 maths guidance	Mathematical talk, representations, manipulatives, explicit teaching, reasoning and responsive support are built into the priority statements.
St Michael's existing Priority Areas document	Existing school codes, year-group examples and reasoning/arithmetic split were retained and completed.

Reception

Secure foundations before Year 1

By the end of Reception, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Build, represent and compare numbers beyond 10 using objects, fingers, frames and pictures. • Say what is one more or one less and explain what changed. • Count objects accurately using one-to-one correspondence and know the last number tells how many.	• Build 14. What do you notice? • Which set has more? How do you know? • What is one less than 8?
NF	• Subitise small quantities to 5. • Sort sets and compare amounts using more, fewer and same. • Compose and decompose numbers to 5 and begin to know bonds to 10 practically.	• Flash 4 dots: how many did you see? • Show 5 in two different ways. • How can we make 10?
AS	• Use part-whole language: whole, part, altogether, left. • Add more and take away in real contexts using first/then/now stories. • Explain what the parts are and what the whole is.	• There were 5 cubes. I add 2 more. How many now? • What is the whole? What are the parts? • How many are left?
MD	• Share and group objects fairly. • Notice doubles and equal groups. • Explore odd and even through sharing.	• Share 8 cubes equally between 2 people. • Can you make double 4? • Are there any left over?
FDP	• Recognise halves and quarters through sharing, shape and everyday contexts. • Use equal parts language practically.	• Can you share the snack into two equal parts? • Show half of the shape. • How do you know the parts are equal?
G	• Copy, continue and create simple patterns. • Name and describe common 2-D and 3-D shapes. • Use positional language in play and construction.	• What comes next in the pattern? • Tell me about this shape. • Put the cube behind the box.
M/S	• Compare length, height, mass and capacity directly. • Sequence everyday events using time language.	• Which is taller? • Which container is full? • What happened first?

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Count forwards and backwards to 20 and beyond; count objects accurately.	Start at 7 and count to 15. Count 12 counters.
NF	Subitise to 5 and show numbers to 5 in different ways.	Show me 4 without counting. Make 5 two ways.
AS	Use practical addition and subtraction stories within 10.	First 6, then 2 more. How many now?
MD	Share small even quantities and make doubles practically.	Share 6 equally. Show double 3.
G	Recognise circle, triangle, square, rectangle, cube, cuboid, sphere and cylinder.	Find a 3-D shape with a flat face.

Year 1

Must know before entering Year 2

By the end of Year 1, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Count within 100 forwards and backwards from any number. • Reason about numbers to 20 on a number line. • Compare and order numbers using <, > and =. • Understand one more and one less.	• Place 14 on a number line from 10 to 20. • Which is greater: 17 or 13? Explain. • Order 12, 19, 15.
NF	• Develop fluency in addition and subtraction facts within 10. • Count in multiples of 2, 5 and 10 and through odd numbers.	• What pairs make 10? • Count in 5s from 0 to 50. • What is 7 + 3?
AS	• Compose and partition numbers to 10 into parts. • Use part-whole models and number sentences. • Add and subtract within 20 using objects, pictures and number lines.	• Show 8 as two parts. • 12 + 5 = ? How do you know? • 16 - 7 = ? Explain your method.
MD	• Recognise equal groups. • Make arrays and doubles. • Share and group practically.	• There are 3 equal groups of 4. How many altogether? • Make an array for 2 + 2 + 2 + 2. • Share 10 equally between 2.
FDP	• Find and recognise halves and quarters of shapes, objects and quantities. • Explain that parts must be equal.	• Show half in three ways. • Find a quarter of 12 counters. • Why is this not a half?
G	• Describe turns and positions using left, right, forwards, backwards, above and below. • Use ordinal numbers. • Recognise and sort 2-D and 3-D shapes.	• The teddy makes a half turn. Where is it facing? • Who is third in the line? • Sort these shapes by property.
M/S	• Compare and measure length, height, mass and capacity. • Tell time to o'clock and half past. • Recognise coins and notes.	• Which ribbon is longer? • Show half past 3. • Make 10p using coins.

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Count, compare and order numbers to 100; identify one more and one less.	What is 1 more than 39? Order 45, 54, 40.
NF	Recall bonds within 10 and related subtraction facts.	6 + 4 = ? 10 - 7 = ?
AS	Add and subtract within 20 using known facts, number lines and part-whole thinking.	9 + 6 = ? 15 - 8 = ?
MD	Count in 2s, 5s and 10s; make equal groups and doubles.	Double 6. Count five groups of 2.
FDP	Find 1/2 and 1/4 of simple shapes and quantities.	Half of 8 = ? Quarter of 12 = ?

Year 2

Must know before entering Year 3

By the end of Year 2, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Recognise place value in two-digit numbers. • Compose and decompose two-digit numbers using standard and non-standard partitioning. • Locate, compare and order any two-digit number on number lines and scales.	• Partition 68 in two ways. • What multiple of 10 comes before 74? • Place 57 on a 0-100 line.
NF	• Secure addition and subtraction facts within 10. • Use bonds to 20 and bonds to 100 in tens. • Count fluently in 2s, 5s and 10s.	• 8 + 2 = ? so 18 + 2 = ? • 70 + ? = 100 • Count back in 10s from 90.
AS	• Add and subtract across 10. • Add and subtract two-digit numbers using tens and ones, number lines and known facts. • Use inverse relationships to find missing numbers.	• 48 + 7 = ? • 63 - 8 = ? • ? + 35 = 72. How do you know?
MD	• Recognise equal groups, arrays and repeated addition. • Recall and use 2, 5 and 10 multiplication and division facts. • Understand doubling, halving, odd and even.	• Write a multiplication sentence for the array. • 30 ÷ 5 = ? • Is 37 odd or even? Explain.
FDP	• Recognise and find 1/2, 1/4, 1/3 and 3/4 of shapes, objects and quantities. • Count in fractions up to a whole.	• Find 1/3 of 18. • Which shape shows 3/4? • Count: 1/4, 2/4, 3/4, 1 whole.
G	• Name, describe and sort 2-D and 3-D shapes by properties. • Use symmetry, position and turn language.	• How many vertices does a cuboid have? • Which shape has one line of symmetry? • Describe a quarter turn.
M/S	• Measure and calculate with length, mass, capacity and temperature. • Tell time to 5 minutes. • Interpret pictograms, tally charts and block diagrams.	• Read 37°C on a thermometer. • What time is shown? • What does each symbol represent?

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Read, write, compare and order numbers to 100.	73 = __ tens and __ ones. 64 > 46: true or false?
NF	Recall bonds to 10 and use bonds to 20 and 100.	9 + 1, 19 + 1, 90 + 10.
AS	Add and subtract ones, tens and two-digit numbers, including across 10.	47 + 26 = ? 82 - 35 = ?
MD	Recall 2, 5 and 10 times-table and related division facts.	6 x 5 = ? 40 ÷ 10 = ?
FDP	Find halves, quarters and thirds of amounts.	1/2 of 16, 1/4 of 20, 1/3 of 12.

Year 3

Must know before entering Year 4

By the end of Year 3, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Know that 10 tens are equivalent to 1 hundred. • Recognise place value in three-digit numbers. • Compose and decompose three-digit numbers flexibly. • Reason about the location of three-digit numbers on number lines and scales.	• Partition 372 in three ways. • Estimate the number marked on the 0-1000 line. • What is 100 more than 458?
NF	• Secure facts that bridge 10. • Recall 10, 5, 2, 4 and 8 multiplication tables and related division facts. • Apply place value to known number facts by scaling by 10.	• 8 + 7 = ? Explain bridging 10. • 7 x 4 = ? so 70 x 4 = ? • 56 ÷ 8 = ?
AS	• Calculate complements to 100. • Add and subtract 1s, 10s and 100s. • Add and subtract two- and three-digit numbers. • Estimate and use inverse operations to check.	• 73 + ? = 100. • 342 + 186 = ? • 501 - 238 = ? • How can you check?
MD	• Use arrays and equal groups to explain multiplication and division. • Multiply and divide by 3, 4 and 8. • Connect multiplication facts to division facts and multiples.	• Draw an array for 6 x 4. • 32 ÷ 4 = ? • Which numbers are multiples of 8?
FDP	• Understand unit and non-unit fractions. • Find fractions on a number line. • Find equivalent fractions in simple cases. • Find fractions of amounts.	• Place 3/4 on a number line. • Which is larger: 1/3 or 1/4? • Find 1/4 of 28.
G	• Recognise 2-D and 3-D shapes and use edges, vertices and faces correctly. • Identify right angles and compare angles. • Measure perimeter of simple shapes.	• How many faces does this prism have? • Is this angle greater than a right angle? • Find the perimeter.
M/S	• Measure in mm, cm, m, kg, g, litres and ml. • Tell time to the minute and solve duration problems. • Interpret and draw simple bar charts, pictograms and tables.	• Convert 3m to cm. • How long from 2:15 to 3:05? • What is the difference between the bars?

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Read, write, compare and order numbers to 1000; find 1, 10 and 100 more or less.	546 + 100 = ? 309 - 10 = ?
NF	Recall 2, 3, 4, 5, 8 and 10 times-table facts and related division facts.	8 x 7 = ? 48 ÷ 6 = ?
AS	Add and subtract two- and three-digit numbers using mental and written methods.	368 + 247 = ? 704 - 286 = ?
MD	Use multiplication and division facts to solve missing-number problems.	__ x 4 = 32. 56 ÷ __ = 8.
FDP	Find unit fractions of amounts and count in simple fractions.	1/3 of 24 = ? Count in quarters to 2.

Year 4

Must know before entering Year 5

By the end of Year 4, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Know that 10 hundreds are equivalent to 1 thousand. • Recognise place value in four-digit numbers and partition flexibly. • Round and reason about four-digit numbers on number lines and scales.	• How many hundreds are in 3,400? • Round 6,482 to nearest 100. • Place 7,250 on a number line.
NF	• Recall all multiplication and division facts up to 12 x 12. • Apply place-value knowledge to scale known facts by 100. • Solve division with remainders and interpret the remainder.	• 7 x 8 = ? so 700 x 8 = ? • 45 ÷ 6 = ? remainder ? • Which multiples of 9 are between 40 and 90?
AS	• Add and subtract four-digit numbers with exchanges. • Use estimates, inverse operations and checking strategies.	• 4,576 + 2,839 = ? • 6,004 - 2,758 = ? • Estimate first, then check.
MD	• Use factors and factor pairs. • Multiply and divide by 10 and 100. • Multiply 2- and 3-digit numbers by 1-digit numbers.	• Find factor pairs of 36. • 480 ÷ 10 = ? • 326 x 4 = ?
FDP	• Understand tenths and hundredths as fractions and decimals. • Convert mixed numbers and improper fractions. • Add and subtract fractions with the same denominator. • Find decimals on number lines and round decimals to whole numbers.	• Write 0.37 as a fraction. • Convert 7/4 to a mixed number. • 3/8 + 4/8 = ?
G	• Compare and order angles. • Classify triangles, quadrilaterals and polygons. • Identify lines of symmetry and complete symmetric figures. • Use coordinates in the first quadrant.	• Which angle is obtuse? • Plot (3,5). • How many lines of symmetry?
M/S	• Calculate area by counting squares and perimeter of rectilinear shapes. • Convert time using 12- and 24-hour clocks. • Interpret charts and line graphs.	• Find the missing length in this rectilinear shape. • 18:45 is what time? • What changed most on the line graph?

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Round, compare and order numbers to 10,000.	Round 7,849 to nearest 10, 100 and 1000.
NF	Recall all multiplication and division facts up to 12 x 12.	9 x 12 = ? 84 ÷ 7 = ?
AS	Add and subtract four-digit numbers accurately.	5,863 + 2,479 = ? 8,002 - 3,596 = ?
MD	Multiply/divide by 10 and 100; multiply 2- and 3-digit by 1-digit.	437 x 6 = ? 3,600 ÷ 100 = ?
FDP	Convert tenths/hundredths; add/subtract same denominator fractions.	0.6 = __/10. 5/9 - 2/9 = ?

Year 5

Must know before entering Year 6

By the end of Year 5, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Read, write, compare and order numbers to 1,000,000. • Understand decimal place value to 2 decimal places. • Round whole numbers and decimals. • Work with negative numbers in context.	• Partition 304,080 flexibly. • Round 45,672 to the nearest 1,000. • Which is greater: 3.07 or 3.7?
NF	• Secure multiplication and division facts through continued practice. • Use factors, multiples, common factors, common multiples, primes, square and cube numbers. • Scale known facts by 0.1 and 0.01.	• Find common factors of 24 and 36. • Is 51 prime? Explain. • 6 x 7 = 42, so 0.6 x 7 = ?
AS	• Add and subtract whole numbers with more than four digits. • Use mental strategies, rounding and adjusting. • Solve multi-step problems and check with inverse operations.	• 19,999 + 3,006 = ? • Use adjusting to solve 5,003 - 998. • Which operation checks the answer?
MD	• Multiply up to 4-digit numbers by 1- and 2-digit numbers. • Use short division for 4-digit by 1-digit numbers and interpret remainders. • Solve multi-step multiplication and division problems.	• 3,482 x 6 = ? • 256 x 34 = ? • 687 ÷ 6 = ? What does the remainder mean?
FDP	• Compare and order fractions, decimals and percentages. • Convert between improper fractions and mixed numbers. • Add and subtract fractions with related denominators. • Understand percentages as fractions and decimals.	• Order 0.65, 3/5 and 70%. • Convert 17/5 to a mixed number. • 2/3 + 1/6 = ?
G	• Measure and calculate perimeter, area and volume. • Estimate, measure and calculate angles. • Use coordinates, translation and reflection.	• Find the area of a compound shape. • What is the missing angle? • Translate the point 3 right, 2 up.
M/S	• Convert between metric units and common imperial units. • Interpret line graphs, tables and timetables.	• Convert 1.5 km to metres. • What is the mean? • Read the timetable to find arrival time.

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Compare, order and round numbers to 1,000,000 and decimals to 2 d.p.	Round 75,482 to nearest 10,000. 4.56 + 0.3 = ?
NF	Recall and use factors, multiples, primes, squares and cubes.	Factors of 48? 9^2 = ? 3^3 = ?
AS	Add and subtract numbers with more than 4 digits and decimals.	45,607 + 28,934 = ? 12.4 - 5.78 = ?
MD	Use long multiplication and short division.	4,563 x 7 = ? 372 x 24 = ? 4,816 ÷ 8 = ?
FDP	Find equivalent fractions/decimals/percentages and fractions of amounts.	25% of 360 = ? 3/4 of 28 = ? 0.4 = ?%

Year 6

Must know before secondary school

By the end of Year 6, children should be secure in the priority knowledge below. Use these statements for planning, assessment, MOT retrieval, scoop groups and transition conversations.

Reasoning and conceptual understanding

Code	Priority learning: children must know and use	Example quick check / question prompt
NPV	• Understand powers of 10 from hundredths to 10,000,000. • Recognise place value in numbers up to 10,000,000 and decimal fractions. • Round and reason about numbers in context, including negative numbers.	• Make 4,506,000 ten times smaller. • Round 8,756,321 to the nearest 100,000. • Explain the position of -4 on a number line.
NF	• Use known facts efficiently with large numbers, decimals and fractions. • Use common factors, common multiples, primes, square and cube numbers. • Apply scaling when multiplying or dividing by 10, 100 and 1000.	• 36 x 7 = ? so 3.6 x 7 = ? • Lowest common multiple of 6 and 8? • Prime factors of 60?
AS/MD	• Understand additive and multiplicative relationships. • Use order of operations. • Use efficient written and mental methods for all four operations. • Solve multi-step problems and explain choices.	• Which operation is needed first? • Calculate 3,456 x 27. • Use long division for 6,384 ÷ 24.
FDP	• Use equivalence between fractions, decimals and percentages. • Add, subtract, multiply and divide fractions. • Find percentages of amounts. • Use ratio, proportion and scale factors.	• Order 0.375, 35% and 3/8. • 2/3 ÷ 4 = ? • Increase £80 by 15%. • Share £45 in the ratio 2:3.
ALG	• Use simple formulae, expressions and equations. • Substitute values and find missing numbers. • Find pairs of values.	• If n = 6, find 4n + 3. • Solve 3x + 5 = 20. • List pairs for a + b = 12.
G	• Calculate area, perimeter and volume using formulae. • Know properties of shapes, angles and coordinates in all four quadrants. • Translate and reflect shapes.	• Find volume of a cuboid. • Calculate the missing angle. • Reflect point (-3,4) in the y-axis.
M/S	• Convert units including metric and imperial approximations. • Interpret pie charts, line graphs and tables. • Calculate and interpret the mean.	• Convert 3.4 km to metres. • What fraction of the pie chart is shaded? • Find the mean of 8, 10, 11, 15.

Arithmetic, fluency and quick retrieval

Code	Arithmetic / fluency priority	Quick check
NPV	Read, compare, order and round numbers up to 10,000,000 and decimals.	Round 6,092,845 to nearest million; compare 0.07 and 0.7.
NF	Apply number facts to large numbers, decimals and fractions.	0.8 x 7 = ? 560 ÷ 8 = ?
AS/MD	Use efficient methods for all four operations, including long multiplication and long division.	7,284 x 36 = ? 9,315 ÷ 23 = ?
FDP	Calculate with fractions, decimals and percentages.	3/4 + 2/5 = ? 5/6 x 12 = ? 35% of 240 = ?
R/P	Solve ratio, proportion and scaling problems.	Scale 4:7 by 3. A recipe for 4 serves 10; how much for 6?
ALG	Evaluate expressions and solve simple equations.	Find x if 4x - 7 = 21.

Review cycle: These priority areas should be reviewed annually against pupil outcomes, MOT data, arithmetic tests, White Rose small steps and teacher assessment evidence.