

MATHS

KS2 Prior Knowledge

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Year 7

Year 8

Year 9

Year 10

Year 11

Content

Three Schemes of Work: Delta 1, Theta 1 and Pi 1, (depending on ability), each containing ten units of work.

Topics covered:

Number
Algebra
Ratio, proportion and rates of change
Geometry and measures
Probability
Statistics

Three Schemes of Work: Delta 2, Theta 2 and Pi 2, (depending on ability), each containing ten units of work.

Topics covered:

Number
Algebra
Ratio, proportion and rates of change
Geometry and measures
Probability
Statistics

GCSE Course. Units 1 -8
Two tiers of entry, Foundation and Higher.

Topics covered:

Number
Algebra
Ratio, proportion and rates of change
Geometry and measures
Probability
Statistics

GCSE Course. Units 9-17
Two tiers of entry, Foundation and Higher.

Topics covered:

Number
Algebra
Ratio, proportion and rates of change
Geometry and measures
Probability
Statistics

GCSE Course. Units 18 -20
Two tiers of entry, Foundation and Higher.

Topics covered:

Number
Algebra
Ratio, proportion and rates of change
Geometry and measures
Probability
Statistics

Skills

Developing Fluency

Consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include decimals, fractions, powers and roots. Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships.

Problem Solving

Can solve emerging problems by applying their mathematics to a variety of routine problems.

Mathematical Reasoning

Can consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system; make connections between number relationships, and their algebraic and graphical representations.

Developing Fluency

Select and use appropriate calculation strategies to solve increasingly complex problems. Develop algebraic and graphical fluency, including Understanding linear and simple Quadratic functions. Use language and properties precisely to analyse numbers, algebraic expressions, 2 D and 3-D shapes, probability and Statistics.

Problem Solving

Can solve simple problems by applying their mathematics to a variety of routine problems. Beginning to discuss the steps needed for non-routine problems.

Mathematical Reasoning

Can extend and formalise their knowledge from KS2/end of year 7 by starting to use mathematical language and properties in their reasoning.
Begin
to reason deductively in geometry, Number and algebra, including using geometrical constructions.

Developing Fluency

Consolidate their numerical and mathematical capability from key stage 3 and extend their understanding of the number system and algebraic simplification and manipulation

Problem Solving

Can solve problems by applying their mathematics to a variety of routine, and some non-routine, problems. Can break problems down into simpler steps.

Mathematical Reasoning

Can begin to reason logically and extend their use of mathematical language and properties in their reasoning.

Developing Fluency

Select and use appropriate calculation strategies to solve increasingly complex problems, including exact calculations involving multiples of π {and surds}, use of standard form and application and interpretation of limits of accuracy

Problem Solving

Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems. Perseverance is developed in seeking solutions.

Mathematical Reasoning

Can interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning. Can explore what can and cannot be inferred in statistical and probabilistic settings, and begin to express their arguments formally.

Developing Fluency

Move freely between different numerical, algebraic, graphical and diagrammatic representations. Use mathematical language and properties precisely

Problem Solving

Begin to model situations mathematically and express the results using a range of formal mathematical representations and select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems; interpret their solution in the context of the given problem.

Mathematical Reasoning

Can reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

Assessment

End of Unit Tests
End of Term Tests
Year 7 Assessment Exam(according to the school Assessment Policy)

End of Unit Tests
End of Term Tests
Year 8 Assessment Exam(according to the school Assessment Policy)

End of Unit Tests
End of September/October for Year Baseline Test
Year 9 Assessment Exam(according to the school Assessment Policy)

End of Unit Tests
End of September/October for Year Baseline Test
Year 10 Assessment Exam(according to the school Assessment Policy)
Year 10 PPE (Pre-Public Exam)

End of Unit Tests
Year 11 PPE's (Pre-Public Exams)
GCSE Public Exams