



# MATHEMATICS CURRICULUM OVERVIEW

## Key Stage 3

### Transition Stage

Students learn to become fluent in the fundamentals of mathematics including through varied and frequent practice with increasingly complex problems over time. This enables students to develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

Students begin to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations. They develop arguments using mathematical language.

### Foundation Stage

Students build on the skills from the Transition Stage. Students develop mathematical fluency, problem-solving and reasoning to enable them for the rigours of the Mathematics GCSE.

## Key Stage 4

### Examination Stage

Students extend and formalise their knowledge of ratio and proportion, including trigonometric ratios, in working with measures and geometry, and in working with proportional relations.

Students use algebra to support and construct arguments, reason deductively in geometry, number and algebra, including using geometrical constructions.

Students explore what can and cannot be inferred in statistical and probabilistic settings and express their arguments formally, assessing the validity of an argument and the accuracy of a given way of presenting information.

## Key Stage 5

### Advanced Stage

Students extend their range of mathematical skills and apply mathematics in other fields of study.

Students use their mathematical knowledge to make logical and reasoned decisions in solving problems both within pure mathematics and in a variety of contexts. They communicate the mathematical rationale for these decisions clearly, reasoning logically and recognising incorrect reasoning.

Students use their mathematical skills to solve challenging problems that require them to decide on the solution strategy.