

Maths

Programme or Study	Year 7 Milestones (Skills)
Develop 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
	Select and use appropriate calculation strategies to solve increasingly complex problems
	Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships
	Substitute values in expressions, rearrange and simplify expressions, and solve equations
	Move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs]
	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
Reason Mathematically	Extend their understanding of the number system; make connections between number relationships, and their algebraic and graphical representations
	Extend and formalise their knowledge of ratio and proportion in working with measures and geometry, and in formulating proportional relations algebraically
	Identify variables and express relations between variables algebraically and graphically
	Make and test conjectures about patterns and relationships; look for proofs or counter-examples
	Begin to reason deductively in geometry, number and algebra, including using geometrical constructions
	Interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning
	Explore what can and cannot be inferred in statistical and probabilistic settings, and begin to express their arguments formally
Solve Problems	Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems
	Develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics
	Begin to model situations mathematically and express the results using a range of formal mathematical representations
	Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems