Mathematics – Year 5-9 – 2025 - 2026

Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics and a sense of enjoyment and curiosity about the subject.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

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

- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programme of study for key stage 3 is organised into apparently distinct domains, but pupils should build on key stage 2 and connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge in science, geography, computing and other subjects.

Decisions about progression should be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content in preparation for key stage 4. Those who are not sufficiently fluent should consolidate their understanding, including through additional practice, before moving on.

Information and communication technology (ICT)

Calculators should not be used as a substitute for good written and mental arithmetic. In secondary schools, teachers should use their judgement about when ICT tools should be used.

Spoken language

The national curriculum for mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Attainment targets

By the end of key stage 3, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study:

	Year 5	Year 6	Year 7	Year 8	Year 9
1	Place Value	Place Value	Number and Calculation	Number and calculation 1	Fractions and indices
2	Addition and Subtraction	Addition, Subtraction, Multiplication and Division	Expressions and algebra	Expressions and functions	Expressions and formulae
3	Statistics	Fractions	Shapes	Shapes and mathematical drawings	Shapes and mathematical drawings
4	Multiplication and Division	Position and Direction	Number and Calculation 2	Length, mass and capacity	Number
5	Fractions	Decimals	Length, Mass and Capacity	Number and calculation 2	Measures

6	Decimals and Percentages	Percentages	Data Collection and Representation	Planning, collecting and processing data	Planning, collecting and processing data
7	Properties of Shape	Algebra	Fractions	Fractions	Rounding, multiplying and dividing
8	Position and Direction	Converting Units	Equations	Expressions, equations and formulae	Equations and inequalities
9	Converting Units	Perimeter, Area &Volume	Angles	Geometry	Geometry
10	Volume	Ratio	Fractions and Decimals	Fractions and decimals	Mental strategies
11	Consolidation	Statistics	Rates	Time and rates of change	Compound measures
12		Properties of Shape		Presenting data interpreting results	Presenting data and interpreting results
13		Consolidation		Fractions, decimals and percentages	Ratio and proportion
14				Sequences, functions & graphs	Sequences, functions and graphs
15				Transformations	Transformations
16				Ratio and proportion	Fractions, decimals and percentages
17				Area, perimeter and volume	Area, perimeter and volume
18				Probability	Probability
19				Vectors and matrices	Quadratics