Key Stage 3

Subject: Mathematics

Intent

The Mathematics Department at Frances Bardsley Academy for Girls wish to provide mathematics education that will encourage the girls to become accurate, efficient, and flexible problem solvers. Rapidly changing technological advances have created a fluid and dynamic world for this generation of students and it is difficult to predict and plan for the problems that our girls will need to solve when they enter the world of work. Therefore, we must ensure that the girls have the core knowledge, and the skills to apply that core knowledge, to a variety of situations that are known and unknown to all of us at this time.

Our curriculum is cyclic in nature in that topics are taught at Key Stage 3 and revisited then enhanced as the students move into Key Stage 4. Across all key stages, we teach a knowledge-based curriculum which is integral to students being successful in Mathematics. We use technology to support our students' learning; we subscribe to Mathswatch and Sparx Maths which give students immediate access to online videos and tutorials and practice questions. Other resources are free of charge and we recommend these to our students as we go through the years (e.g., Corbett Maths, Maths Genie etc).

Programme of study and assessment

	Autumn Term	Spring Term	Summer Term
Year 7	• Sequences • Algebraic notation & substitution • Expressions & equations • Place value, ordering & rounding • Four operations • Averages & range • Rounding & estimation	• Graphing data • Fractions, decimals & percentages • Directed number • Fractions & percentages of amounts • Perimeter & area	• Speed, distance & time • Properties of number • Add & subtract fractions • Angles & polygons
Assessment	• Assessments are completed after each unit of work. • Homework is set via Sparx Maths to support the in-class learning.	• Assessments are used to test students' recall of the key concepts and their ability to use these ideas to solve problems. • The students RAG their work before and after the assessment. • Questions are a mixture of fact-based	• After the run-through of the assessment the students complete a DIRT activity to show improvements that have been made post-assessment. • In the summer term, the students sit their end-of-year assessment. This is used alongside all the

		questions and problem-solving questions.	other data obtained throughout the year to set the students for the next academic year.
Year 8	• Ratio & scale • Multiplicative change • Multiplying & dividing fractions • Working in the Cartesian plane • Representing data • Tables & probability	• Brackets, equations & inequalities • Sequences • Indices • Fractions & percentages • Standard index form • Number sense	• Angles in parallel lines & polygons • Area of trapezia & circles • Line symmetry & reflection • The data handling cycle • Measures of location
Assessment	• Assessments are completed after each unit of work. • Homework is set via Sparx Maths to support the in-class learning.	• Assessments are used to test students' recall of the key concepts and their ability to use these ideas to solve problems. • The students RAG their work before and after the assessment. • Questions are a mixture of fact-based questions and problem-solving questions.	• After the run-through of the assessment the students complete a DIRT activity to show improvements that have been made post-assessment. • In the summer term, the students sit their end-of-year assessment. This is used alongside all the other data obtained throughout the year to set the students for the next academic year.
Year 9	• Properties of number • Percentages • Area & volume • Equations, inequalities & formulae • Fractions • Rates of change • Standard index form	• Straight-line graphs • Ratio & proportion • Constructions & congruence • Similarity • Algebraic manipulation	• Pythagoras' theorem • Non-linear graphs • Sets & probability • Transformations • Simultaneous equations • Trigonometry • Maths & money
Assessment	• Assessments are completed after each unit of work. • Homework is set via Sparx Maths to	• Assessments are used to test students' recall of the key concepts and their ability to use these	• After the assessment run-through, the students complete a DIRT activity to show improvements that

	support the in-class learning. • In year 9, we introduce the students to regular cumulative testing. • Before every assessment the students are given a topic list to give focus to their revision. • All assessments test the unit of work that has just been taught and a variety of questions from earlier units.	ideas to solve problems. • Questions are a mixture of fact-based questions and problem-solving questions. • In year 9, we begin to increase our emphasis on examination style questions in preparation for Key Stage 4.	have been made post-assessment. • In January the students sit a mid-year assessment which is used alongside historic data to band the students in year 10. • In the summer term, the students sit their end-of-year assessment. This is used alongside all the other data obtained throughout the year to set the students for the next academic year.