Reading Girls' School

Subject Curriculum Road Map – Mathematics

Every student at RGS studies the same curriculum, however, the stage at which each year group and class works on is dependent on each classes' pre-requisite knowledge.

Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
3.1 – Numbers and place value up to 1000	4.1 – Larger numbers, negative numbers and roman numerals	5.1 – Large and negative numbers in different formats	6.1 – Place value	7.1 - Working with place value	8.1 – Arithmetical operations with decimals and negatives
3.2 – Adding and subtracting with 3-digit numbers	4.2 – Converting time	5.2 – Drawing, measuring and estimating angles	6.2 – Multiplication and division	7.2 – Introducing algebra	8.2 – Linear equations with unknowns on both sides
3.3 – Calculating with money and measures	4.3 – Times tables and formal methods for addition and subtraction	5.3 – Decimals, equivalence and rounding	6.3 – Using factors, multiples and primes to work with fractions	7.3 – Lines and angles	8.3 – Parallel, alternate and corresponding
3.4 – Adding, subtracting and comparing fractions	4.4 – Rounding and arithmetic	5.4 – Addition and subtraction	6.4 – Perimeter, area and volume	7.4 – The probability scale	8.4 – Sets and unions
3.5 – Using time accurately	4.5 – Coordinates and plotting	5.5 – Reflection and translation	6.5 – Arithmetical operations	7.5 – Powers, roots and rounding	8.5 – percentages
3.6 – Quick recall and use of multiplication and division	4.6 – Solve problems using fractions	5.6 – Primes, factors, squares and cubes	6.6 – Translations and reflections	7.6 – Formulae, sequences and rules	8.6 – Sequences and relationships

3.7 – Interpreting and presenting data	4.7 – Translations, reflections, angles and shapes	5.7 – Long multiplication	6.7 – Fractions, decimals and percentages	7.7 – Using measurements	8.7 – Symmetries and construction
3.8 – Angles, lines and shapes	4.8 – Decimals, rounding and multiplying or dividing by 10 and 100	5.8 – Solving problems using the four operations	6.8 – Number problems and equations	7.8 – Representing and interpreting data	8.8 – Using averages, range and relationships to describe data
3.9 – Calendars and time	4.9 – Interpret and present data for calculating	5.9 – Using information from graphs, tables and timetables	6.9 – Converting measures	7.9 – Order or operations	8.9 – Multiples, factors and primes
3.10 – Working with the four operations	4.10 – Perimeter and area or rectilinear shapes	5.10 – Solving problems with measure and time	6.10 – Accuracy and proportion	7.10 – Linear equations	8.10 – Linear equations: graphically and algebraically
3.11 – Working with non-unit fractions and small denominators	4.11 – Mental calculations	5.11 – Solving problems with fractions	6.11 – Pie charts and the mean	7.11 – Properties of shapes and solids	8.11 – Accuracy with perimeter, area and volume
	4.12 – Converting measurements and money	5.12 – Metric measurements in shapes	6.12 – Formulae and sequences	7.12 – Ratio	8.12 – Dividing quantities into ratios
		5.13 – Fractions and their decimal and percentage equivalents	6.13 – Dimensions and scale	7.13 – Graphs of linear functions	8.13 – Algebraic expressions
		5.14 – Identifying shapes	6.14 – Angles, shapes and solids	7.14 – Congruence and scale drawing	8.14 – Translations, rotations and reflections
					8.15 – Diagrams and constructions

Stage 9	Stage 10	Stage 11
9.1 – Arithmetic with fractions	10.1 – Proportion	11.1 – Rates of change
9.2 – Expressions and formulae	10.2 – Sequences	11.2 – Further sequences
9.3 – Angles and polygons	10.3 – Probability calculations for more than one event	11.3 – Grouped frequency data representation
9.4 – Sample spaces to calculate theoretical probabilities	10.4 – Numbers and accuracy	11.4 – Trends
9.5 – Ratio and percentage change	10.5 – Linear algebra	11.5 – Combining transformations
9.6 – Rearranging and solving linear equations	10.6 – Functions	11.6 – Vectors
9.7 – Geometrical relationships and Pythagoras' Theorem	10.7 - Circles	11.7 – 3D shapes
9.8 – Central tendency and spread	10.8 – Trigonometry	11.8 – Inequalities
9.9 – Mathematics models	10.9 – Measures and units	11.9 – Proof
9.10 – Using graphs to solve equations	10.10 – Quadratic equations	

9.11 – Pythagoras' Theorem and Trigonometry in right-angled triangles		
9.12 – Standard form and the number system		
9.13 – Geometric sequences		
9.14 – Compound units		
9.15 - Mathematical models		

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Binomial Expansion	Trigonometric Ratios, Identities and Equations	Differentiation	**Statistics AS & A2** Data collection Measures of location and spread Representation of data Correlation Probability Statistical distributions Hypothesis testing Regression, correlation and hypothesis testing Conditional probability Normal distribution			Binomial Expansion	Trigonometric functions	Integration		Parametric Equations	Revision and Exams
Algebraic Expressions	Straight line graphs	Integration	**Mechanics AS and A2** Modelling Constant acceleration Forces and motion Variable Acceleration Moments Forces and friction Projectiles Applications of forces Further kinematics		Revision, Assessment and Feedback	Algebraic Methods	Trigonometry and modelling	Vectors		Numerical Methods	
Quadratics	Circles	Vectors			Sequences and Series	Functions and graphs	Differentiation				
Equations and Inequalities	Algebraic Methods	Exponentials and Logs				Radians					
Graphs and transformations											