NHSG Key Stage 3 Unit Overview for Y8 (Summer): Mathematics

Scheme of Learning	Maths Y8 Summer Term Data and Probability; 2D shapes, Trigonometry, Simultaneous equations and Data		
Learning outcomes	By the end of the Summer term, you should have knowledge and understanding of Data and Probability, 2D Shapes, Introduction to Trigonometry, Simultaneous Equations and Cumulative Frequency graphs.		
Knowledge	Key concepts and skills Mutually exclusive outcomes Grouped data Bi-variate data Enlargement Trigonometric ratios Simultaneous equations Cumulative frequency graphs and box plots Continue from KS3 overview Contents	Key terminology Mutually exclusive Modal and median classes Frequency polygons Scatter diagrams Correlations Similar shapes Enlargements Linear scale factor Trig Ratios, sine, cosine, tangent ratios Simultaneous equations Cumulative frequency Interquartile Range Box plots Matrices	
Ongoing Assessment	In Maths, the most important assessment takes place in every lesson where teachers observe and support whilst they are practicing applying knowledge and new skills. This assessment enables teachers to tailor their lessons to their class. At a point when teachers know that students are ready, a class will have a skills check in a lesson. These checks are low stakes and help to inform both teachers and students of each individuals next steps. Students are not given warning of these skills checks so that teachers can determine how regularly students are engaging in maths, rather than measure how much work a student has been able to do to prepare for a test. **Support for revision:**		

	On SharePoint in the 'Topic Information' folder are overview sheets for each topic. Students can download these sheets from [here](#)
	Good ways to revise for the end of unit include:
	• Review their notes,
	• Use / Review materials from SharePoint
	• Boost, Target and Independent learning tasks from SparxMaths.
Key Assessment	At the end of the Summer term students will have a large, announced assessment which covers the key concepts covered to date. The aim of this assessment is for student to develop revision skills. The most valuable part of this assessment is the feedback that students get. The question analysis sheets direct students to additional support using Sparx Codes that link to specific topics and content. Students will identify these areas for support through the feedback lesson set aside for assessment feedback

Clear sequencing of content	Data and Probability	Mutually exclusive events for single event or two successive events. Determination as to when you add or multiply probabilities Calculate mean, modal class and median class of grouped data. Construction and comparison of frequency polygons Construction of scatter diagrams to identify and describe correlations.
	Geometric Shapes	Know when 2D shapes are similar Use length scale factor to calculate unknowns Enlargement of 2D shapes with a scale factor > 0
	Trigonometry	Describe the trig ratios generated from sides of right-angled triangles. Use trig ratios to find unknown sides and angles. Use trig ratios to solve problems in 2D
	Algebra	Solve simultaneous equations using algebraic elimination and graphical methods.
	Data	Construct cumulative frequency tables and graphs. Estimate median and IQR of a large data set. Construct box plots and compare two sets of data.
	Introduction to matrices	Add, subtract and multiply simple matrices

Links to Careers	The overarching skills achieved within Mathematics are integral to numeracy in any career. If students choose to progress from GCSE into A-Level maths, they will begin to see how different types of mathematical application may feed into careers, for example, statistical analysis of data, mechanics and engineering.
Support	SharePoint pages (text based, images and videos) Class Revision Resources Key Terminology Sheet
Challenge	Sparx – independent learning challenge sections guide to 'codes'. UKMT Junior Mathematics Challenge which takes place in May.