

Curriculum Map – Year 8 Mathematics

Learning Phase 1 – Autumn Term		
Knowledge	Skills	Rationale
ALL students cover: NUMBER - Integers, Squares, Roots and Cubes - Fractions, Decimals and Percentages - Factors and multiples - Rounding - BIDMAS ALGEBRA - Sequences - Expressions, Formula and Equations SHAPE - Area and Perimeter - Angles - Properties of Shapes (2D and 3D) - Measures DATA - Pie charts - Averages from Tables and Lists - Probability Excellence/Extending only: SHAPE - Recurring decimals and fractions - Plans and elevations Developing only: SHAPE - Pictograms	Through the mathematics content, pupils are taught to: Develop fluency: - 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 mathematical relationships - substitute values in expressions, simplify expressions, and solve equation - develop algebraic fluency - move freely between different numerical representations e.g. fractions and decimals - use language and properties precisely to analyse probability and statistics Reason mathematically: - extend their understanding of the number system - make connections between number relationships - extend their knowledge of working with measures and geometry - begin to reason deductively in geometry, number and algebra - make and test conjectures about patterns and relationships - explore what can and cannot be inferred in statistical settings	The order in which topics are taught are influenced by the textbooks used (Oxford Maths Link 8A, 8B, 8C) although schemes have been written and adapted by experienced teaching staff to ensure challenge is provided across the attainment bands and to ensure students are prepared for on-going assessments. The order of topics is determined generally by the knowledge and skills which are pre-requisites for future topics. Within the scheme each topic starts from where the student is at the end of year 7 and further concepts are developed from there. The teachers are advised to review briefly information already covered, to form building blocks on which to extend. The content taught is determined by the National Curriculum.

• Inequality signs • Constructions • Money problems		
	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 • select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems	
Assessment 1 (November) Excellence pupils: A 30 minute calculator paper and a 30 minute extension paper. Extending and Secure pupils: A 45 minute calculator paper Developing pupils: A 30 minute calculator paper		