

Curriculum Map – Year 8 Mathematics

Learning Phase 1 – Summer Term		
Knowledge	Skills	Rationale
ALL students cover: SHAPE • 3D Shapes • Constructions DATA • Representing data • Collecting data Excellence only: NUMBER • Bounds Excellence/Extending only: NUMBER • Ratio and proportion ALGEBRA • Expanding double brackets • Factorising simple quadratics SHAPE • Pythagoras' theorem • Trigonometry • Bearings and scale drawing DATA • Averages from frequency tables Excellence/Extending/Secure only: SHAPE • Speed, distance and time • Distance, time graphs • Transformations	Through the mathematics content, pupils are taught to: Develop fluency: • select and use appropriate calculation strategies to solve increasingly complex problems • develop algebraic fluency, including understanding linear and simple quadratic function • use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes and statistics Reason mathematically: • extend their understanding of algebraic representations • extend and formalise their knowledge of ratio and proportion in working with measures and geometry • make and test conjectures about patterns and relationships; look for proofs or counterexamples • begin to reason deductively in geometry, number and algebra, including using geometrical constructions • interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning • explore what can and cannot be inferred in statistical and probabilistic settings and begin to express their arguments formally. Solve problems: • develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems	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.

- Angles Secure only: NUMBER - Calculation plus - Indices	- 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 - begin to model situations mathematically	
ALGEBRA - Expanding single brackets - Rules of indices - Inequalities SHAPE - Isometric drawing - Scale drawings DATA - Two-way tables - Timetables Developing only: NUMBER - Calculation plus SHAPE - Volume - Nets DATA - Venn diagrams ALGEBRA - Expanding brackets		
Assessment 3 (June) All pupils: Two written papers, 45 minutes each in length (Paper 1: non-calculator, Paper 2 calculator allowed). Papers are tiered according to progress bands: EXC/EXT; SEC; DEV.		

