ERNULF ACADEMY
Astrea Academy Trust
INSPIRING BEYOND MEASURE

Year 8 Corrective Mathematics 2022_2023	Subject Intent	Our aim is to deliver an appropriately ambitious curriculum that secures subject knowledge through depth, breadth, and ambition for all pupils. Our carefully chosen curriculum provides atomisation, careful sequencing, alignment of content, instruction, and assessment. Pupils learn to become fluent in the fundamentals of mathematics to access complex problems and develop conceptual understanding. Pupils apply their understanding to routine and non-routine problems with increasing sophistication. We fundamentally believe in mastering and building a foundation of Mathematics to allow more complex mathematics to be taught and learnt with fidelity, accuracy, and pace.
	KS3 Subject Narrative	Pupils in the Corrective Mathematics programme learn addition, subtraction, and multiplication in the first academic year. If pupils complete the three modules, then they move onto the division module. Pupils relearn how to apply the four operations after being identified for the programme. Pupils then move onto the Direct Instruction programme, Essentials for Algebra. Remaining topics not identified in Essentials for Algebra are taught as resources created by the Astrea Textbook designed by the National Lead team.
	KS4 Subject Narrative	The Year 10 and 11 curriculum includes topics which are mixed concepts e.g., Linear graphs is the application of algebraic notation and linear equations in the context of coordinate geometry.
	Routine Assessment Strategies	In the KS3 curriculum, pupils experience individual turns, delayed tests, mastery quizzes and remediation tests to ensure knowledge is committed to their long-term memory. Year 10's use knowledge retrieval and procedural starters and have a fortnightly low stakes cumulative quiz which the later is marked by teachers and stored on a central spreadsheet to measure progress. Each fortnightly quiz is a SAR (Strength Action Response) task where pupils are given feedback before and after their low stake cumulative quiz.

Year 8 Corrective Mathematics 2022_2023	**WHY THIS, WHY NOW?**	Autumn Term – Division	Spring Term – Basic Fractions	Summer Term – Essentials for Algebra
	Key Subject Knowledge	• 100 basic division facts • The long division operation (with either 1- or 2- digit divisors) • Story problems that require the division operation • Division story problems • Procedures for discriminating between division story problems and story problems that require addition, subtraction, or multiplication	• Write fractions from pictures • Draw pictures from fractions • Determine when a fraction is equal to 1, more than 1, and less than 1 • Add and subtract fractions with a common denominator • Change whole numbers and mixed numbers to fractions • Add, subtract, and multiply fractions and mixed numbers	• Short division • Decimal rounding • Decimal operations • Fraction operands • Fraction, Decimal, Percent Equivalences • Geometry • Rate equations • Fraction simplification • Algebra • Algebra translation
	Subject Competencies	• The single digit divisor strategy • The 2-digit divisor strategy • Students are taught to determine whether the remainder is too large, and if it is, to make the answer larger. If the remainder is too small (a negative number), students make the answer smaller.	• Concept of fractions • Operations on fractions • Parts and wholes • Mixed numbers • Equivalent fractions	• Pupils learn single digit and multi digit multiplication through the structure of place value columns. • Pupils learn how to apply their addition skills in the column multiplication. • Pupils discriminate between addition, subtraction and multiplication and create a calculation from a story problem.
	Summative Assessments (high stakes assessments which test cumulative knowledge)	• Pupils have 16 in-program mastery tests.	• Pupils have 7 review worksheets • Pupils have a numeracy age baseline assessment to measure progress	• Mastery Tests 1-11 (A mastery test follows lessons 6 and 15 and every tenth lesson thereafter, that is, lessons 25, 35, 45 and so on through lesson 115) • Practice tests 1 and 2 follow lesson 120 • Pupils have a numeracy age baseline assessment to measure progress
	How does this pave the way for future study?	• Pupils learn division to apply the procedure with the medium of fractions, and apply in essentials for algebra	• Pupils learn basic fractions to access essentials for algebra where pupils learn fraction, decimal, percent equivalences and fraction operands	• Pupils have now accessed the main body of the NC and will learn the foundational algebra and geometry topics to access more complex topics such as coordinates and straight-line equations.