

Year 10F Term 1 - Number and Algebra

Year group 10	Subject: Year 10F Term 1 - Number and Algebra
Prior learning- linked to National curriculum	Students will build directly upon their Key Stage 3 knowledge of core mathematical concepts. This term revisits and extends their understanding of the number system, including calculations with decimals, factors, multiples, and indices. In algebra, students will consolidate their KS3 introduction to simplifying expressions and substitution, providing the groundwork for more complex algebraic manipulation required at GCSE level.
Rationale	This initial term is designed to solidify students' fundamental skills, which are critical prerequisites for all other areas of the GCSE curriculum: Number (Topics 1.1 - 1.7): A strong command of numeracy is essential not only for accessing more advanced mathematical topics but also for practical application in everyday life, such as financial management. Algebra (Topics 2.1 - 2.7): This unit establishes the core language of algebra. Mastery of these skills is crucial for solving equations, understanding graphical representations, and developing abstract reasoning, all of which are significant components of the GCSE examination.
Vocabulary:	Keywords <u>Number:</u> Integer; Decimal; Place Value; Factor & Multiple; Prime Number; Square, Cube, Root; Index (Indices) & Power ; Prime Factor Decomposition <u>Algebra:</u> Expression; Term; Variable; Coefficient; Constant; Simplify; Substitute; Formula (Formulae); Expand & Factorise
Cultural Capital:	● History of Mathematics: Discuss the history of prime numbers, including Euclid's proof that there are infinitely many, and their crucial role in modern-day internet security and cryptography. ● Financial Literacy: Connect calculations with decimals, factors, and multiples to real-world financial scenarios such as creating a budget, calculating discounts in shops, understanding mobile phone tariffs, or comparing product prices.

	● Science and Engineering: Show how algebraic formulae are used to model the real world in other disciplines, using examples like the formula for speed ($\text{Speed} = \frac{\text{Time}}{\text{Distance}}$) in physics or calculating the area of a space in design and technology
SEND	Include SENDSational 6  Introducing SENDsational 6
Key assessments- name the assessments	Students will have a Baseline Assessment at the start of term, then a mini assessments on: ● 1.1 Calculations ● 1.3 Place value ● 2.3 Substitution / 2.4 Formulae ● 2.5 Expanding brackets There will also be a summative End of Term 1 Assessment that will cover all topics from this term. Unit wrapper covering the above topics
What do children know/ can do now (EDSM)	By the end of this term, students will have moved from a basic KS3 understanding to a more robust, GCSE-ready skill set. They will be able to confidently manipulate both numbers and algebraic expressions. Specifically, students will be able to: ● Work fluently with the four operations, factors, multiples, primes, indices, and roots. ● Manipulate algebraic expressions by simplifying, substituting into formulae, expanding single brackets, and factorising simple expressions. ● Apply these foundational skills to begin solving multi-step problems, providing the necessary toolkit for tackling equations and graphs in the following terms.
What amendments are you going to make following evaluation of this module?	

Term 1	Assessments
1.1 Calculations	Green
1.2 Decimal numbers	
1.3 Place value	Green
1.4 Factors and multiples	
1.5 Squares, cubes and roots	
1.6 Index notation	
1.7 Prime factors	
2.1 Algebraic expressions	
2.2 Simplifying expressions	
2.3 Substitution	
2.4 Formulae	Green
2.5 Expanding brackets	Green
2.6 Factorising	
2.7 Using expressions and formulae	
End of Term 1 Assessment	