SAFFRON VALLEY COLLEGIATE
BE READY, BE RESPECTFUL, BE SAFE

# Saffron Valley Collegiate Maths Learning Journey (Higher)

Strand key: Number | Algebra | Geometry | Probability | Statistics | Ratio & Proportion | Revision | Assessment

## 11 YEAR

Content recap — So that.... — Explain why.... — Exam questions — Question familiarity

**FLUENCY REVISION** → **REASONING** → **MOCKS AND EXAM STYLE** → **REVISION AND COMMUNICATION** → **GCSE / F.S. EXAM**

Ongoing assessment — Use of online platform — Prove that... — Understanding mark schemes — Intervention groups

## 10 YEAR

**PROPORTIONS AND GRAPH**: Rate of change using tangents; Exponential growth and decay

**VECTORS**: Expanding brackets; Writing column vectors; Draw Vectors and their resultants; Geometric proof

**FURTHER ALGEBRA**: Algebraic proof; Algebraic fractions

**CIRCLE THEOREM**: Rationalise the denominator; Tangent to a circle; Know and apply circle theorem

**EQUATIONS**: Equation of a circle; Expand three brackets; Solve graphically

**FURTHER STATISTICS**: Expand three brackets; Cumulative frequency and box plots; Histograms

**FURTHER TRIGONOMETRY**: Trig graphs and their transformation; Area of a triangle; Solving quadratics: Factorising, Completing the square Quadratic formula

**EQUATIONS & INEQUALITIES**: Simultaneous equation of; Solve Inequalities

## 9 YEAR

**GRAPHS**: Real life graphs; Equation of a line; Quadratic cubic and other graphs

**TRANSFORMATION & CONSTRUCTIONS**: Draw and describe transformations; Constructions and Loci

**AREA & VOLUME**: Circumference and are of circles; Accuracy and bounds; Surface area and volume of 3D shapes

**PROBABILITY**: Tree diagrams; Venn diagrams; Two way tables

**MULTIPLICATIVE REASONING**: Rates and best buy; Compound measure; Direct and inverse proportion

**SIMILARITY & CONGRUENCE**: Plans and elevations; Linear, are and volume scale factors; Condition of proving congruence

## 8 YEAR

**ANGLES AND TRIGONOMETRY**: Exact Trig values; Pythagoras and SOHCAHTOA; Angles in parallel lines and polygons

**REPRESENTING DATA**: Averages from Pie Charts frequency tables; Histograms

**FRACTIONS, RATIOS & PERCENTAGES**: Four operations with fractions; Recurring decimals; Calculator & Non Calculator percentages

**ALGEBRA**: Solving equations; Sequence; Expanding and Factorising

**NUMBER**: Surds; Standard form; Index law

## 7 YEAR

**OPERATING WITH NUMBER**: Square & Cube Numbers; Sums with integers /decimals; BIDMAS BODMAS; Negatives

**ALGEBRA**: Collecting Like Terms; Expanding brackets; Forming Expressions; Factorising; Solve Linear Equations

**MULTIPLICATIVE REASONING**: Best Buy; Percentages; Conversion Graph

**FRACTIONS & RATIO**: Fraction of Amounts; Sharing in a Ratio; Simplifying ratio; Partial ratio

**GEOMETRY**: Perimeter – Area of 2D shapes; Angles & properties of 2D shapes

**NUMBER PROPERTIES**: Factors Multiples & Primes; Fractions Decimal & Percentages; Rounding & Estimation

Schemes of Learning are designed to ensure students' progress based on understanding and readiness for the next stage. Stretch and challenge are at the heart of the curriculum

Students will be able to solve problems and apply their knowledge to routine and non-routine problems

Induction Assessment (BKSB) Math Baseline Assessment (Edexcel, Sparx)

Topic Test and termly assessments are designed to assess knowledge and maximise progress

Manipulatives will be used to help students develop concrete, Pictorial and abstract understanding

Students will develop CONCEPTUAL UNDERSTANDING and become FLUENT mathematicians leading to the ability to RECALL and APPLY knowledge rapidly

Michael Thompson (2024)