Content - Big ideas

Huge Idea – To master core skills required in number, algebra and geometry for GCSE

Number:

- Different types of numbers, LCM and HCF
- Rules of indices
- Standard form
- Fraction and Percentage of a quantity
- Expressing one number as a fraction or percentage of another
- Fractional and percentage change
- Direct and Inverse proportion

- Four operations of whole numbers, fractions, decimals and negatives
- Upper and Lower bounds
- Estimating and accuracy
- Simple interest profit and loss
- Compound interest
- Foreign currency and exchange rates
- Conversion graphs

Algebra:

- Generating linear and non linear sequences
- Finding the nth term of a sequence linear and quadratic
- Travel and real life graphs
- Coordinates in all four quadrants
- Sketching linear graphs
- Parallel and Perpendicular lines
- Y= mX+c
- Drawing quadratic and cubic graphs
- More complicated graphs
- Forming and simplifying expressions involving powers
- Extraction of common factors

- Changing the subject of a formula.
- Expanding brackets and double brackets
- Formation and manipulation of quadratic equations
- Factorising quadratics
- Solution of linear equations with whole number and fractional coefficients
- Solving quadratics using factorisation and graphs

Geometry:

- Nets
- 2D representation of 3D shapes
- Symmetry
- Transformations
- Construction and loci
- Angle properties
- Pythagoras's Theorem

- Trigonometry
- Properties of circles
- Circle Theorems
- Similar shapes
- Maps and Scales
- Bearings

Prior learning

KS3 Prior Learning

Global/IOM/Subject Links

Links to Science, Geography, D&T, computer science. Project work and real life application.

Subject specific skills development

- Modelling through abstract, concrete and pictorial methods.

- Use of manipulatives to secure a deeper understanding.

- Mental strategies for problem solving in context.

- Proficient use of a calculator

- Proficient use of geometrical equipment

- Logical reasoning skills