



### Content - Big ideas

**Huge Idea – To confidently apply their mathematical understanding**

#### Number:

*Big idea – To apply fundamental numeracy skills*

- Decimals- working with money, weights and measures
- Order of operations in more complex equations
- Factors and multiples to include prime factors, HCF and LCM
- Fractions and mixed numbers
- Powers and roots to include fractional and negative
- Rounding to include bounds
- Percentage change include reverse percentages and compound interest
- Ratio

#### Algebra:

*Big idea – To apply concepts of algebra previously learnt*

- Substitution to include fractions and negatives
- Graphs and Gradients including to find the equation of a line
- Algebraic manipulation
- Solving equations including simultaneous and quadratic equations
- Sequences including quadratic sequences

#### Geometry:

*Big idea – To apply their understanding of 2D and 3D shapes*

- Plans and Elevations
- Area and Volume
- Imperial and metric units
- Problem solving with angles
- Pythagoras's Theorem
- Trigonometry
- Transformations
- Co-ordinates to include midpoints
- Map scales
- Constructions and Loci

#### Data and Probability:

*Big idea – To apply concepts of data handling*

- Interpreting statistical diagrams
- Histograms to include those with unequal class widths
- Averages from a table
- Probability to include probability tree diagrams

### Prior learning

Year 7 and Year 8 SOL

### 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