KS3 curriculum map

|  | **Topic** | **Key concept – what do I want the students to learn from this unit?** | **What knowledge will they acquire?** |
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| **YEAR 8 OVERVIEW** | | | |
| **Y8 - half term 1** | Algebra  Handling data  Metric system | Sequences and patterns.  Averages and range.  Charts and graphs.  Algebraic manipulation.  The development and significance of the metric system. | Position to term rules and term to term rules, linear sequences.  Continuing and representing geometric sequences.  Recognising and representing quadratic sequences.  Use trial and improvement to solve equations.  Averages and range from a table.  Draw and interpret pie charts, bar/line graphs.  Drawing and analysing scatter graphs.  Expanding and factorising single brackets.  Understand and use laws of indices. Expanding a pair of brackets.  Know why and how the metric system was created. Understand the impact the metric system has had on the World. |
| **Y8 – half term 2** | Number  Geometry  Probability | Rounding and approximation.  Perimeter and area of 2D shapes.  Surface area and volume of cuboids.  Basic probability.  Four operations with fractions and decimals. | Rounding to given decimal places, significant figures and power of ten.  Using significant figures for estimation. Limits of accuracy.  Perimeter of a 2D shape.  Calculating the area of a trapezium.  Surface area and volume of cuboids and prisms (including cylinders).  Circumference and area of a circle. Area of compound shapes.  Adding, subtracting, multiplying and dividing with fractions.  Comparing fractions, decimals and percentages.  Understanding the links between fractions and ratios.  Understand mutually exclusive probabilities add up to 1.  Listing outcomes in sample space diagrams. Using product rule for outcomes.  Drawing and interpreting frequency trees.  Understanding and calculating experimental probabilities. |
| **Y8 – half term 3** | Geometry  Algebra  Number | Properties of angles.  Solving linear equations.  Understanding and using percentages. | Understanding and using the properties of angles in triangles, quadrilaterals, parallel lines and polygons.  Solving linear equations with one or two steps, which can also include brackets. Solving equations with unknowns on both sides. Solving inequalities.  Understanding and using decimal multipliers.  Increasing or decreasing amounts by a percentage. Calculating simple and compound interest. |
| **Y8 – half term 4** | Algebra  Geometry | Using and manipulating formulae.  Shapes and constructions.  Linear functions. | Substituting into formulae.  Deriving formulae.  Rearranging formulae.  Drawing and understanding nets of 3D shapes.  Drawing and understanding plans and elevations.  Drawing and interpreting scale diagrams.  Plotting coordinates.  Solving geometrical problems on coordinate axes.  Plotting vertical and horizontal lines on a coordinate grid.  Plotting equations of the form y = mx + c.  Drawing and interpreting real life graphs. |
| **Y8 – half term 5** | Geometry  Number | Transformations and vectors.  Factors, powers and roots.  Measures. | Perform and recognise rotations, reflections and translations on a coordinate axes.  Perform and recognise enlargements with and without a centre of enlargement.  Recognise and find factors and multiples.  Find the HCF and LCM of two or more numbers.  Find the product of prime factors in index form of any number.  Use prime factors to find HCF or LCM.  Convert between standard form and ordinary numbers.  Use order of operations in calculations.  Use a timetable.  Reading scales.  Choose and use appropriate units.  Convert between different metric units.  Convert between metric units of area and volume. Understand and use compound units. |
| **Y8 – half term 6** | Geometry  Algebra  Ratio and Proportion  Financial project | Volume  Algebraic manipulation  Budgeting a holiday. | Surface area and volume of cuboids and prisms (including cylinders).  Finding unknown dimensions of a cuboid/prism given the volume or surface area.  Expanding and factorising single brackets.  Understand and use laws of indices. Expanding a pair of brackets.  Ratio notation.  Simplifying ratios.  Ratios in the form 1:n or n:1.  Sharing in a ratio.  Understand all expenditures for organising a holiday. Preparing a presentation to promote the holiday planned including the full dudget. |