Module 1

Subject: Maths
Topic Title: Number & Proportion
Brief Summary of Content Studied: Plot coordinates in all four quadrants Find the midpoint of a line segment joining two points Find an endpoint of a line segment, given the midpoint and one endpoint Solve problems using coordinate grids Identify the equations of horizontal and vertical lines Plot coordinates from a rule to generate a straight line Identify key features of a linear graph Make links between the graphical and the algebraic representation Identify parallel lines from algebraic equations Recognise when two quantities are directly or inversely proportional to each other Recognise the graphical representation of a proportional relationship Solve proportion problems Interpret and use conversion graphs and other graphs of proportional relationships Use standard form to express very large and small numbers Convert between standard form and ordinary numbers Order large and small numbers Use standard form to solve simple problems Use scales to solve distance and area problems in context
Knowledge Organiser: https://docs.google.com/presentation/d/1N50_U8Z_WvZKLqNqq5cGENcEqVP4NRsCNLFfXxFVYZ4/edit?usp=sharing

Module 2

Subject: Maths
Topic Title: Algebra
Brief Summary of Content Studied: Recognise that linear and quadratic expressions can be used to represent sequences of different types Recognise arithmetic and geometric sequences and appreciate other sequences that may arise Solve problems involving linear and non-linear sequences in a variety of contextsMultiply a term over a single bracket Expand products of two or more binomials Factorise expressions into a single bracket Factorise quadratic expressions where the coefficient of x^2 is equal to one Write expressions, equations and formulae to represent relationships Use substitution to find the value of one variable given other values Make links between solving linear equations and rearranging formulae Apply "changing the subject" to equations of straight lines Manipulate familiar formulae such as formulae for area and perimeter Round numbers to a required number of decimal places Understand the meaning of significant figures Round numbers to a required number of significant figures Identify rounding errors

Module 3

Subject: Maths
Topic Title: Geometry
Brief Summary of Content Studied: Explore relationship between circumference and diameter. Calculate area of a given circle. Calculate circumference of a given circle. Problem solving with area and circumference. Develop an understanding of volume. Conjecture a formulae for the volume of cubes, cuboids & prisms. Use the formulae to calculate the volume of cubes, prisms and composite solids. Changing between units of volume. Problem solving involving volume. Recognising and drawing nets of prisms. Develop an understanding of surface area. Conjecture a formulae for the surface area of cubes, cuboids & prisms. Calculate the surface area of cubes, prisms and composite solids. Problem solving involving surface area and volume. Use the standard ruler and compass constructions for: perpendicular bisector of a line segment constructing a perpendicular to a given line from/at a given point bisecting a given angle Understand and use the perpendicular distance from a point to a line as the shortest distance to the line

Module 4

Subject: Maths
Topic Title: Geometry & Algebra
Brief Summary of Content Studied: Know the criteria for congruence of triangles Apply properties of plane figures, and the criteria for congruence, using appropriate language Derive Pythagoras' theorem Use Pythagoras' theorem to find missing sides in right-angled triangles Solve associated problems in other shapes where right-angled triangles exist Deduce whether a triangle is right-angled by considering its sides Derive the proof of the sum of the angles in a triangle Find the formula for sum of the angles of any polygon Understand and use the sum of the exterior angles of a polygon Solve problems involving the angles/number of sides in a regular polygon Form and solve linear equations and inequalities in one unknown, including those where the

unknown appears on both sides Rearrange and solve linear equations and inequalities given in any form, including those involving fractions and brackets

Module 5

Subject: Maths
Topic Title: Probability & Statistics
Brief Summary of Content Studied: Use linear and quadratic graphs to estimate values of y for given values of x Use linear graphs to find approximate solutions of simultaneous linear equations Solve simultaneous equations algebraically Find approximate solutions to contextual problems from given graphs of a variety of functions including: Piecewise linear (e.g. real-life linear graphs) Exponential Reciprocal Understand and use the probability scale from 0 to 1 Understand and use the language associated with probability Understand the relationship between relative frequency and theoretical probability Understand that different trials of an experiment may produce different outcomes Systematically list outcomes using a variety of representations Use Venn diagrams and understand the meaning of union and intersection Frequency tree diagrams

Module 6

Subject: Maths
Topic Title: Working with Data
Brief Summary of Content Studied: Calculate the mean, median, mode & range of simple data sets Understand why averages are used and the benefits/drawbacks of each Find missing data values when given specific averages Appreciate the difference between discrete and continuous data, quantitive and qualitative & primary and secondary Create a hypothesis and understand how to test its validity Explore methods of data collection including surveys, questionnaires and the use of secondary data Understand how to collect data into a table specific to the type of data collected" Appreciate the difference between discrete and continuous data Understand why the exact mean cannot be found from grouped data Find an estimate of the mean from grouped data and continuous data Describe, interpret and compare distributions, involving appropriate measures of central tendency and spread Plot scatter graphs

Describe the type of correlation observed
Interpret correlation in context"