Stuart Bathurst Catholic High School

Mathematics Department

Long-term Sequencing Year 8 Stage 4

The curriculum has been designed to ensure that students develop the skills required to be successful in reaching their goals. We want students to be numerate and understand the Mathematics of the world around them, whilst also having an appreciation and love of Mathematical concepts.
Problem solving is embedded from year 7 all the way through to year 13, with a 5-year SOW in year 7 to 11, based upon students' current level of knowledge and understanding. Teaching is based around an interleaved curriculum, with links made between multiple topics. Students are first taught to fully understand the knowledge, and then given time to fully master the skill. Students are then given opportunities to apply their understanding and skills to practical applications. Each stage of students 5-year plan builds upon students' prior knowledge and seeks to develop this further. Our curriculum is designed to be fluid, data-led and student-centric, with it being adapted as and when necessary.

HALF TERM 1:	**HALF TERM 2:**	**HALF TERM 3:**
STUDENTS MUST KNOW: **Number Properties 1** All operations of integers/decimals/fractions, place value/ordering with directed numbers, fractions, and decimals, all parts of BIDMAS **Geometry & Measures** All angles facts (including parallel lines), nets, surface area & volume of 3D shapes, conversion of units (length, mass and capacity) **Number Properties 2** Prime Factors, HCF & LCM, Standard Form **Algebra 1** Substitution (including negative numbers), use of formulae involving shapes	**STUDENTS MUST KNOW:** **FDP** Converting FDP, Percentage (Calc & Non-Calc), % Increase/decrease, multipliers, calculate percentage change, compound interest & depreciation **Approximations** Rounding (significant figures), Estimation, Use of a calculator **Algebra 2** Simplifying (sums, products & powers), Expanding and Factorising (single and double brackets), Solving Equations (with unknowns on both sides) **Collecting & Interpreting Data** Construct frequency tables, Averages from a table, Two Way Tables (construct and interpret), Venn Diagrams (construct and interpret), Time Series Graphs (construct and interpret)	**STUDENTS MUST KNOW:** **Sequences & Graphs** Recognise types of sequences, coordinates, Linear graphs, Sequences, Nth Term (linear only) **Proportion 1** Simplifying Ratio, Writing Ratios, Using Ratio (maps), Sharing by a ratio, Unitary method for proportion **Ratio and Scale** Construct scale drawings, Maps, Bearings, Interpret Scales **Shape Properties** Angles in parallel lines, Properties of regular polygons, Constructing Triangles
HOW THIS WILL BE ASSESSED: **Low stakes knowledge tests as starters** **End of unit assessments at the end of each half term** **Half termly assessments covering all previously learnt topics**	**HOW THIS WILL BE ASSESSED:** **Low stakes knowledge tests as starters** **End of unit assessments at the end of each half term** **Half termly assessments covering all previously learnt topics**	**HOW THIS WILL BE ASSESSED:** **Low stakes knowledge tests as starters** **End of unit assessments at the end of each half term** **Half termly assessments covering all previously learnt topics**

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HALF TERM 4:	HALF TERM 5:	HALF TERM 6:
STUDENTS MUST KNOW: **Algebra 3** Changing the subject (including powers & roots), Identities and Equations **Transformations** Rotation, Reflection, Enlargement (positive scale factors only), Translations (including mixed) **Probability** Probability of events from a list, Calculate missing probabilities, Carry out experiments and record results, construct & interpret probability trees (independent events only) **HOW THIS WILL BE ASSESSED:** **Low stakes knowledge tests as starters** **End of unit assessments at the end of each half term** **Half termly assessments covering all previously learnt topics**	**STUDENTS MUST KNOW:** **Triangles and Congruency** Constructions and Loci, Pythagoras' Theorem (for all sides) **Interpreting Data** Stem & Leaf (draw & interpret), Collect & record grouped data, Calculate averages (from a list, frequency table & grouped data), Draw a bar chart, draw a pie chart **Circles** Label parts of a circle, Area & Circumference, Compound shapes (area & perimeter) **HOW THIS WILL BE ASSESSED:** **Low stakes knowledge tests as starters** **End of unit assessments at the end of each half term** **Half termly assessments covering all previously learnt topics**	**STUDENTS MUST KNOW:** **Proportion 2** Direct and inverse proportion (including using the formula), Compound interest & decay **Equations & Inequalities** Forming and solving equations (up to & including unknowns on both sides), Solve linear inequalities (one variable), Represent inequalities on a number lines, Solve a quadratic equation graphically **Plotting and Sketching Graphs** Plot linear Graphs, Use conversion graphs, Equation of a line (two points, one point & gradient), Plot quadratic graphs **HOW THIS WILL BE ASSESSED:** **Low stakes knowledge tests as starters** **End of unit assessments at the end of each half term** **Half termly assessments covering all previously learnt topics**
Home learning set will consist of a combination of: Weekly Sparx tasks (due each Wednesday) and additional worksheets where appropriate		