DAGENHAM PARK SUBJECT CURRICULUM

Subject	Mathematics
Year Group	**Year 10**

Overview	**Flight paths have been tailored for pupils to build on knowledge acquired in Year 9. There are two flight paths; Higher and Foundation. Flight paths are determined by an end of year 8 assessment.** **Our schemes of learning for year 10 is organised into specific mathematical strands. It is designed to make connections between mathematical strands and to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.**

Term by Term

Autumn Half term 1	Foundation Graphs - Coordinates - Linear graphs - Gradient - $y = mx + c$ - Real-life graphs - Distance-time graphs - More real-life graphs Transformations - Translation - Reflection - Rotation - Enlargement - Describing enlargements - Combining transformations	Higher Equations and inequalities - Solving quadratic equations - Completing the square - Solving simple simultaneous equations - More simultaneous equations - Solving linear and quadratic simultaneous equations - Solving linear inequalities Probability - Combined events - Mutually exclusive events - Experimental probability - Independent events and tree diagrams - Conditional probability - Venn diagrams and set notation
Autumn Half term 1	Ratio and proportion - Writing ratios - Using ratios 1 - Ratios and measures - Using ratios 2 - Comparing using ratios - Using proportion - Proportion and graphs - Proportion problems	Multiplicative reasoning - Growth and decay - Compound measures - More compound measures - Ratio and proportion
Spring Half term 1	Right-angled triangles - Pythagoras' theorem - Trigonometry: the sine ratio - Trigonometry: the cosine ratio - Trigonometry: the tangent ratio	Similarity and congruence - Congruence - Geometric proof and congruence - Similarity - More similarity - Similarity in 3D solids

	- Finding lengths and angles using trigonometry Probability - Calculating probability - Two events - Experimental probability - Venn diagrams - Tree diagrams - More tree diagrams	More trigonometry - Accuracy - Graph of the sine function - Graph of the cosine function - The tangent function - Calculating areas and the sine rule - The cosine rule and 2D trigonometric problems - Solving problems in 3D - Transforming trigonometric graphs
Spring **Half term 2**	Multiplicative reasoning - Percentages - Growth and decay - Compound measures - Distance, speed and time - Direct and inverse proportion	Further statistics - Sampling - Cumulative frequency - Box plots - Drawing histograms - Interpreting histograms - Comparing and describing populations
Summer **Half term 1**	Constructions, loci and bearings - 3D solids - Plans and elevations - Accurate drawings 1 - Scale drawings and maps - Accurate drawings 2 - Constructions - Loci and regions - Bearings Quadratic equations and graphs - Expanding double brackets - Plotting quadratic graphs - Using quadratic graphs - Factorising quadratic expressions - Solving quadratic equations algebraically	Equations and graphs - Solving simultaneous equations graphically - Representing inequalities graphically - Graphs of quadratic functions - Solving quadratic equations graphically - Graphs of cubic functions Circle theorems - Radii and chords - Tangents - Angles in circles - Applying circle theorems
Summer **Half term 2**	Perimeter, area and volume 2 - Circumference of a circle - Area of a circle - Semicircles and sectors - Composite 2D shapes and cylinders - Pyramids and cones - Spheres and composite solids	More algebra - Rearranging formulae - Algebraic fractions - Simplifying algebraic fractions - More algebraic fractions - Surds - Solving algebraic fraction equations - Functions - Proof

Homework	**Homework will be provided weekly via *Show My Homework*. Homework set will reinforce the skills learnt in lesson and prior learning.**
Useful Resources	**Sharepoint – Mathematics – KS4** **https://mathsgenie.co.uk/** **ww.mathsbox.org.uk** **https://vle.mathswatch.co.uk/vle/**