DAGENHAM PARK SUBJECT CURRICULUM

Subject	Mathematics	
Year Group	Year 9	
Overview	**Flight paths have been tailored for pupils to build on knowledge acquired in Year 7 and 8. 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 9 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: Number: - Calculations - Decimal numbers - Place value - Factors & multiples - Squares, cubes & roots - Index notation - Prime factors -	Higher: Number: - Number problems and reasoning - Place value and estimating - HCF and LCM - Calculating with powers (indices) - Zero, negative and fractional indices - Powers of 10 and standard form - Surds
Autumn Half term 1	Algebra: - Algebraic expressions - Simplifying expressions - Substitution - Formulae - Expanding brackets - Factorising - Using expressions and formulae	Algebra: - Algebraic indices - Expanding and factorising equations - Formulae - Linear sequences - Non-linear sequences - More expanding and factorising
Spring Half term 1	Graphs, tables and charts: - Frequency tables - Two-way tables - Representing data - Time series - Stem and leaf diagrams - Pie charts - Scatter graphs - Line of best fit	Interpreting and representing data - Statistical diagrams 1 - Time series - Scatter graphs - Line of best fit - Averages and range - Statistical diagrams 2

	Fractions and percentages - Working with fractions - Operations with fractions - Multiplying fractions - Dividing fractions - Fractions and decimals - Fractions and percentages - Calculating percentages 1 - Calculating percentages 2	Fractions, ratio and percentages - Fractions - Ratios - Ratio and proportion - Percentages - Fractions, decimals and percentages - Angles and trigonometry - Angle properties of triangles and quadrilaterals - Interior angles of a polygon - Exterior angles of a polygon - Pythagoras' theorem 1 - Trigonometry 1 - Trigonometry 2
Spring Half term 2	Equations, inequalities and sequences - Solving equations 1 - Solving equations 2 - Solving equations with brackets - Introducing inequalities - More inequalities - More formulae - Generating sequences - Using the nth term of a sequence	Angles and trigonometry - Angle properties of triangles and quadrilaterals - Interior angles of a polygon - Exterior angles of a polygon - Pythagoras' theorem - Trigonometry 1 - Trigonometry 2
Summer Half term 1	Angles - Properties of shapes - Angles in parallel lines - Angles in triangles - Exterior and interior angles - More exterior and interior angles - Geometrical patterns Averages and range - Mean and range - Mode, median and range - Types of average - Estimating the mean - Sampling	Graphs - Linear graphs - More linear graphs - Graphing rates of change - Real-life graphs - Line segments - Quadratic graphs - Cubic and reciprocal graphs - More graphs Area and volume - Perimeter and area - Units and accuracy - Prisms - Circles - Sectors of circles - Cylinders and spheres - Pyramids and cones
Summer Half term 2	Perimeter, area and volume 1 - Rectangles, parallelograms and triangles - Trapezia and changing units - Area of compound shapes	Transformations and constructions - 3D solids - Reflection and rotation - Enlargement

	- Surface area of 3D solids - Volume of prisms - More volume and surface area	- Transformations and combinations of transformations - Bearings and scale drawings - Constructions 1 - Constructions 2 - Loci
Homework	**Homework will be provided weekly via *Show My Homework*. Homework set will reinforce the skills learnt in lesson and prior learning.**	
Useful Resources	**Mathswatch** **Activeteach** **Mathsbox.org.uk**	