

Bishop Milner Catholic College



Curriculum Plan-Subject: **Mathematics**

Stage 8

Autumn Term	Spring Term	Summer Term
<p>Numbers and the Number System - Write a number as a product of its prime factors and find further mathematical results. Understand how to use significant figures and convert large numbers to and from standard form (10 hours)</p> <p>Calculating - Calculate effectively with negative numbers with and without a calculator. Calculate with powers, roots and reciprocals using the order of operations (10 hours)</p> <p>Visualising and Constructing -Complete</p>	<p>Exploring Fractions Decimals and Percentages - Work with terminating and non-terminating decimals, writing them as fractions or percentages (4 hours)</p> <p>Proportional reasoning - Solve problems using ratio and fractions, use compound measures such a speed and density, identify multipliers of multiplicative relationships(8 hours)</p> <p>Pattern Sniffing - Use algebraic rules to from and describe sequences. (4 hours)</p> <p>Investigating angles - Calculate angles on parallel intersecting lines and interior angles of regular polygons(6 hours)</p>	<p>Calculating Space - Calculate the area of compound shapes made from rectangles and triangles. Use circle formula to solve problems relating to area and perimeter including those using exact values of π. Calculate the volume of right prisms and cylinders (10 hours)</p> <p>Algebraic Proficiency: Visualising - Plot linear graphs of the form $y = mx+c$, quadratic graphs and graphs of speed, distance and time (10 hours)</p>
HALF TERM		
<p>Visualising and Constructing - Complete enlargements, use scale and bearings (2 hours)</p> <p>Understanding Risk - Use the probability scale to solve problems with theoretical and experimental data (6 hours)</p> <p>Algebraic Proficiency : Tinkering- Simplify more complex algebraic expressions, use index rules, effectively use mathematical and scientific formula including changing the subject (10 hours)</p>	<p>Calculating Fractions Decimals and Percentages - Solve problems using fractions and percentages of amounts, use multipliers to complete percentage increase and solve problems involving repeated change and initial value problems (6 hours)</p> <p>Solving equations and Inequalities - Solve linear equations with unknowns on both sides and link solving equations to intersections of graphs(4 hours)</p>	<p>Understanding Risk - Use Venn diagrams and two-way tables to solve probability problems (6 hours)</p> <p>Presentation of data - Compare data given in 2 different graphical forms, construct Histograms and plot scatter graphs. (4 hours)</p> <p>Measuring Data - Calculate averages and range from grouped and ungrouped frequency tables. Investigate data sets further to make comparisons (6 hours)</p>

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