BEACONSFIELD HIGH SCHOOL

Maths Grade Descriptors

Skill Area	Band 1 – Developing	Band 2 – Proficient	Band 3 – Confident	Band 4 – Mastery
Number	Students can use integers including negatives accurately Students can apply all four operations with whole numbers and decimals Students can multiply and divide by powers of 10 Students can work with simple fractions and percentages accurately	Students are able to work with all four operations with fractions and decimals including mixed fractions Students can increase & decrease a quantity by a percentage Students can round accurately to a set number of decimal places & significant figures	Students can rewrite numbers in standard form and use these accurately for calculations Students can use fractions, decimals and percentage across a wide range of problem-solving questions Students can use efficient numerical strategies to simplify questions Students understand how to find and apply HCF, LCM and prime factors	Students can calculate limits of accuracy and use bounds to calculate problems in context Students can calculate compound interest and use multipliers to work out reverse percentages problems Students have solid numerical reasoning skills to choose the simplest way of solving questions in context.
Algebra	Students can write & simplify expressions, substitute into formulae and solve simple one-step equations Students are able to generate sequences and write the term-to-term rule. Students can plot coordinates in all four quadrants.	Students can expand & simplify single brackets. Students can solve multistep equations using reverse operations Students can find nth term of linear sequences Students can accurately plot linear graphs on a coordinate grid using a table of values.	Students have strategies to solve equations with fractions & brackets and can rearrange formulae using these techniques Students can work with inequalities to solve simple inequalities and plot these on a number line Students can plot linear graphs using a gradient-intercept method and can quadratic graphs	Students can solve simultaneous equations graphically Students can manipulate algebraic fractions Students can expand & factorise double/triple brackets Students have an understanding of how to use algebra for proof & generalisation
Ratio & Proportion	Students can write and simplify ratios	Students can swap between ratio and fractions to solve	Students can solve inverse proportion questions	Students can use ratios to solve multistep proportional

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	Students can share quantities using ratio	problems Students can use scale factors for area & volume including using area and volume unit conversion Students can use simple map scales to solve real world problems	Students can work with compound measures Students can use proportional comparisons to find best buys in real world context Students can use direct proportion in simple context	reasoning questions Students can solve contextual problems using more complex ratio and proportion methods
Geometry & Measures	Students can calculate the perimeter & area of basic shapes They can find the volume of cuboids and simple compound solids	Students can use angle rules to find angles in parallel lines and in simple regular polygons	Students are able to apply Pythagoras' theorem to solve length problems in a right-angled triangle. Students can calculate the surface area & volume of prisms Students can translate, reflect, rotate and enlarge shapes on a Cartesian grid Students can calculate circumference and area of a circle	Students can use right-angled trigonometry to find lengths and angles in a right-angled triangle They can solve multistep geometry problems Students can calculate the volume & surface area of more complex solids including cylinders
Statistics	Students can construct tables & charts Students can calculate averages & range from a list of values.	Students can produce and interpret statistical diagrams Students can compare data distributions using averages and range Students can identify misleading graphs	Students can calculate averages from grouped frequency tables Students understand correlation and lines of best fit.	Students can calculate summary statistics and make and evaluate statistical claims
Probability	Students understand probability as a scale and can write single event probabilites	Student understand the difference between	Students can create sample space diagrams for combined events and calculate related probabilities.	Students understand the concept of mutually exclusive events and calculate their probabilities

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	Students can list outcomes for events.	experimental probability and theoretical probability.	Students can interpret relative frequency.	Students can create Venn diagrams & use set notation to solve and interpret probabilities
Problem Solving & Reasoning	Students have a basic understanding of how to approach simple problems Students can follow structured methods for procedural problems	Students can select a suitable strategy from known procedures and can explain reasoning clearly	Students are able to solve unfamiliar multistep problems by creating appropriate strategies step problems-step problems Students are able to justify their approaches using mathematical language	Students can solve complex, nonroutine problems Students make connections across topics and can fluently use different techniques Students are able to prove identities using logical reasoning and correct notation