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| Mathematics Year Ten | Curriculum Intent: The Year 10 curriculum will consolidate and extend the differing areas of mathematics covered during Key Stage 3. Students will continue to study Number, Algebra, Geometry and Data Handling as they prepare for the GCSE Mathematics examinations at the end of Year 11. Opportunities to revisit key concepts through retrieval practice will be frequent parts of the curriculum. Key knowledge and skills will be developed with the use of problem solving activities and the frequent use of 'problem solving' style GCSE questions. Students will be required to identify which part of their knowledge and skills will be best suited to the question. | | | | | | | | | | | | | | | | | |
| | Term One | | | Term Two | | | Term Three | | | Term Four | | | Term Five | | | Term Six | | |
| Knowledge (Red indicates 'Higher tier only' topic areas) | Number <ul style="list-style-type: none"> • Powers and roots • Reciprocals • Laws of indices • Negative and Fractional Indices • Standard form conversions and calculations Algebra <ul style="list-style-type: none"> • Writing algebraic expressions • Simplifying algebraic expressions • Expanding single and double brackets • Expanding triple brackets • Factorising into single and double brackets • Substitution into formulae | | | Geometry <ul style="list-style-type: none"> • Basic angle fact • Angles on parallel lines • Angles in polygons • Bearings • Loci and constructions • Circle theorems Number <ul style="list-style-type: none"> • Currency conversion • Fraction, decimal and percentage equivalence • Percentage of amount • Percentage increase/decrease • Percentage change • Reverse percentages • Compound and simple interest • Growth and decay | | | Geometry <ul style="list-style-type: none"> • Units of measurement • Perimeter and area (rectangle, triangle, parallelogram, trapezium) • Area of compound shapes • Circumference and area of a circle Number <ul style="list-style-type: none"> • Simplifying surds • Surds calculations • Rationalising the denominator | | | Algebra <ul style="list-style-type: none"> • Solving linear equations (include fractions, negatives, brackets and unknowns on both sides) • Solving quadratic equations • Rearranging formulae – basics • Rearranging formulae - advanced • Completing the square • Algebraic fractions | | | Number <ul style="list-style-type: none"> • Simplifying Ratios • Sharing in a ratio • Unitary Method • Scale drawings • Proportion • Direct and inverse proportion algebraically Algebra <ul style="list-style-type: none"> • Vectors | | | Consolidation and preparation for end of year examinations. Once completed, the evaluation of end of year examinations and preparation for Year 11. | | |
| Understanding | Completion of exam questions and problem solving activities to develop application of knowledge and skills | | | | | | Completion of exam questions and problem solving activities to develop application of knowledge and skills | | | | | | Completion of exam questions and problem solving activities to develop application of knowledge and skills | | | | | |
| Skills | Use and apply standard technique | Reason, interpret and communicate mathematically | Solve problems within mathematics and in other contexts | Use and apply standard technique | Reason, interpret and communicate mathematically | Solve problems within mathematics and in other contexts | Use and apply standard technique | Reason, interpret and communicate mathematically | Solve problems within mathematics and in other contexts | Use and apply standard technique | Reason, interpret and communicate mathematically | Solve problems within mathematics and in other contexts | | | | | | |
| Interleaving | Regular consolidation of all prior teaching Reviewing skills for future learning Use of Mathsbox 10 and 20 question starters | | | | | | Regular consolidation of all prior teaching Reviewing skills for future learning Use of Mathsbox 10 and 20 question starters | | | | | | Regular consolidation of all prior teaching Reviewing skills for future learning Use of Mathsbox 10 and 20 question starters | | | | | |
| Assessment | Regular 'low stakes' testing in class Formal assessment at end of Term One | | | | | | Regular 'low stakes' testing in class Formal assessment during Term Three | | | | | | Regular 'low stakes' testing in class End of Year Exams in June | | | | | |