

AUTUMN TERM

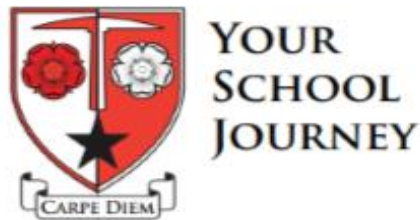
- Number: Symbol notation. Understand estimation. Calculating with integers, decimals and negatives and rounding to decimal places or sig. figures. Indices Inc. roots. Factors, multiples and primes. HCF and LCM. Fraction, decimal and percentages operations and comparison. Percentage real life (VAT, profit, simple interest and income tax).
- Algebra and shape: Writing and simplifying expressions. Using substitution in expressions and formulae including in context (polygons, angles).
- Data: composite, dual/comparative bar charts for categorical and ungrouped discrete data, bar-line charts, vertical line charts, line graphs for time-series data, pie charts and scatter graphs (line of best fit). Interpolation and extrapolation.
- Recall, assessment and review.

SPRING TERM

- Shape and algebra: Properties of parallel lines and polygons. Interior and exterior angles.
- Shape and number: Area, perimeter and volume of 2d and 3d shapes including trapezia. Use scale and conversions. Volume and surface area of cube, cuboid and triangular prism.
- Data: Averages from discrete and grouped data sets.
- Algebra: To solve inequalities and display them on number lines. Real life graphs. Midpoints, gradients and their interpretation. Use $y = mx + c$ and $ax + by = c$ to understand properties of straight lines. solving equations Sequences, nth term (arithmetic) and types of geometric.
- Careers Week.
- Recall, assessment and review.

SUMMER TERM

- Ratio: Share total, given a share, unitary, fractional and simplified. Compare using scale. Direct and inverse proportion.
- Shape: Pythagoras and trigonometry. Transformations (translation, reflection, rotation and enlargement). Use scale factor and column vectors.
- Data: Probability understanding outcomes, theoretical and bias. Frequency tables and trees. Two way tables, Venn diagrams and tree diagrams.
- Recall, assessment and review.



YEAR 10

HIGHER MATHS

AUTUMN TERM

- Retrieval starters throughout the year
- Number: Indices, roots and reciprocals. Factors, multiples, primes, standard form and surds. Fractions, % and ratio (unitary and 3 part).
- Algebra: Notation, forming, rearranging, solving equations and formulae.
- Data: Analysis of diagrams including scatter graphs (line of best fit), time series and associated interpolation and extrapolation.
- Recall, assessment and review.

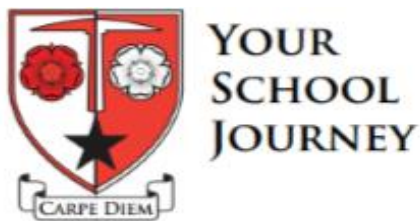
SPRING TERM

- Shape and algebra: Pythagoras, trigonometric ratios (including exact values) and polygon facts (interior and exterior). In context and using algebra. Graphs, distance-time and velocity-time. Speed, acceleration and distance (trapezia). Linear $y=mx + c$, $ax + by = c$, perpendicular and types of.
- Shape and number: Area, perimeter and volume of 2d and 3d shapes including bounds and accuracy and Transformations. Plans and elevations.
- Data: Theoretical and experimental probability. Use of Venn, tree and 2-way diagrams with or without replacement.
- Careers: Product development cycle (car)
- Recall, assessment and review.

SUMMER TERM

- Algebra: Equations and inequalities of quadratics. Complete the square (solve, sketch and min point). Simultaneous equations Inc. linear/quadratic and circle.
- Number and ratio: Rates of pay. Compound interest, depreciation and measures.
- Shape: Congruence and similarity with proof. Similar shapes (sf , sf^2 , sf^3), develop to frustums. Trigonometric functions and their transformations. Sine, cosine, $\frac{1}{2}$ absinC rules with 2D, 3D and planes of incline.
- Recall, assessment and review.

BUILDING EXCEPTIONAL YOUNG MEN



YEAR 11 FOUNDATION MATHS

AUTUMN TERM

- Retrieval starters throughout the year
- Algebra: Expand Double Brackets. Quadratic equations: expanding and factorising (including difference of two squares). Plotting and recognising a quadratic.
- Shape: Bearings, Loci, Construction, Plans and Elevations. Similarity and Congruence.
- Number: Reverse Percentages, Compound Interest, Percentage loss and Profit. Indices and Standard Form
- Recall (PPE Revision), AP1 assessment in September
- Mock Examinations – AP2 in November
- Revision and Recall

SPRING TERM

- Shape: To understand Vectors. Column vectors, drawing vectors and identifying parallel vectors.
- Algebra: To rearrange a formula and make an unknown the subject and recognises and sketch graphs
- AP3 assessment in February.
- Revisit revision advice and exam direction.
- Revision targeting most frequent topics on OCR and Edexcel exam papers.

SUMMER TERM

- Revisit revision advice and exam direction.
- Continue with completing Hannah Kettle papers and independent learning on SPARX.
- Exams TBC May onwards.
- GCSE Maths Paper 1 TBC May AM Calculator.
- GCSE Maths Paper 2 TBC May AM Non Calculator.
- GCSE Maths Paper 3 TBC June AM Calculator.
- GCSE Statistics Paper 1 TBC June PM Calculator.
- GCSE Statistics Paper 2 TBC June PM Calculator.

BUILDING EXCEPTIONAL YOUNG MEN

AUTUMN TERM

- Retrieval starters throughout the year
- Level 2 AQA Further Maths after school.
- Data: Cumulative Frequency, Box Plots and Histograms
- Shape and algebra: Prove, recall and use the six circle theorems. Circle geometry using $x^2 + y^2 = r^2$ to find associated gradients and line equations. Reciprocal and exponential graphs; Gradient and area under graphs.
- Algebra: Changing the subject of formulae (more complex), solving equations from algebraic fractions and rationalising surds. Proof using $2n$ (even) $2n + 1$ (odd), contradiction and exhaustion. Solve simultaneous equations graphically and sketching quadratic graphs
- Recall (PPE Revision), AP1 assessment in September
- Mock Examinations – AP2 in November

SPRING TERM

- Shape: Vectors and geometric proof. Divided in a given ratio and collinear.
- Number: Direct and inverse proportion.
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- GCSE Statistics Paper 1 TBC June PM Calculator.
- GCSE Statistics Paper 2 TBC June PM Calculator.
- Level 2 AQA Further Mathematics Paper 1 TBC.
- Level 2 AQA Further Mathematics Paper 2 TBC.