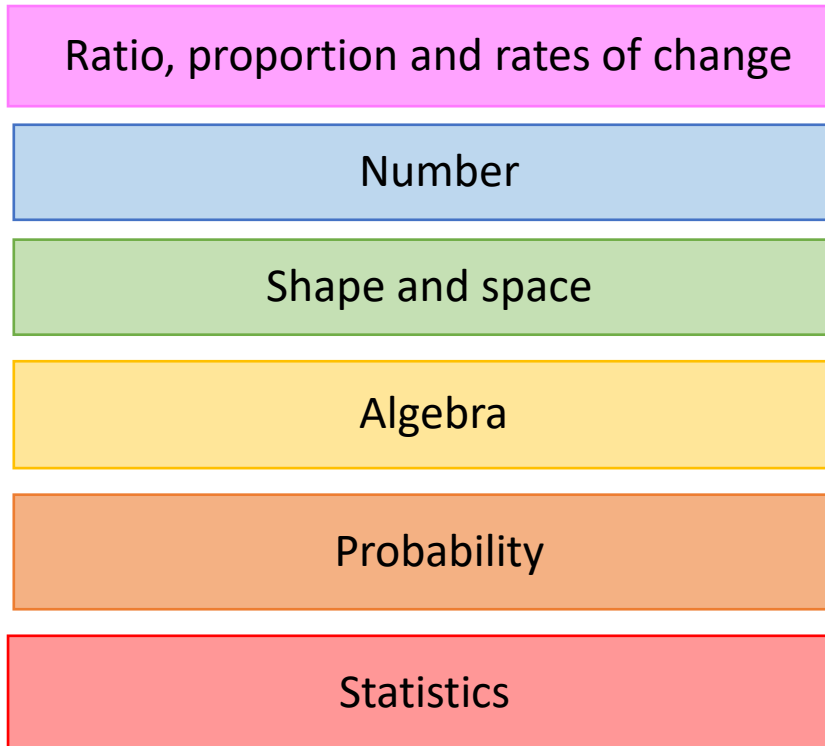
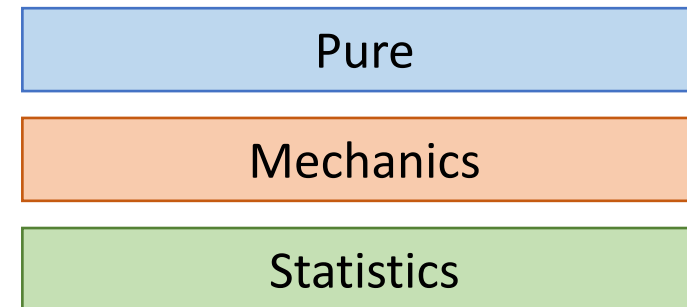


KS3 & KS4



KS5



Autumn Term

Number and the number system	Checking, approximating and estimating	Calculating	Calculations with fractions	Counting and comparing including negative numbers	Algebraic proficiency	Calculating space
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Spring Term

Measuring data	Visualising and constructing	Investigating shapes and angles	Transformations	Solving equations
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Summer Term

Solving equations (continued)	Exploring fractions, decimals and percentages	Calculating fractions, decimals and percentages	Proportional reasoning	Presentation of data
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Year 7

Autumn Term

Number and
the number
system

Algebraic
proficiency:
tinkering

Calculating
with standard
form

Solving
equations

Calculating
space

Algebraic
proficiency:
sequences

Spring Term

Algebraic
proficiency:
sequences

Algebraic
proficiency:
visualising

Exploring
fractions,
decimals and
percentages

Calculating
fractions,
decimals and
percentages

Understanding
risk

Summer Term

Investigate
angles in
parallel lines
and
polygons

Visualising
and
constructing

Presenting
and
measuring
data

Year 8

Autumn Term

Algebraic proficiency: tinkering	Calculating with standard form	Calculating with surds	Investigate angles in polygons	Pythagoras Theorem and Trigonometry	Calculating space
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Spring Term

Calculating fractions, decimals and percentages	Understanding risk	Solving equations and inequalities	Algebraic proficiency: visualising	Solving equations and inequalities 2
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Summer Term

Proportional reasoning	Visualising and constructing	Describing transformations	Congruency and similarity	Compound units	Algebraic proficiency: sequences
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Year 9

Y10 Hisher

Autumn Term

Fractions	Indices	Standard form	Algebra: Quadratics	Algebraic Fractions	Surds	Pythagoras and Trigonometry
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Spring Term

Percentages	Ratio and proportion	Polygons, angles and parallel lines	Graphs: linear, quadratic and cubic	Circles: Equations of circles and tangents	Simultaneous equations	Functions
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Summer Term

Iteration	Product rule for counting	Probability	Quadratic sequences	Volume: cylinders, spheres and cones
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Autumn Term

Inequalities

Representing
and
interpreting
data

Accuracy and
bounds

Transformations
of curves

Estimation
and
compound
measures

Similarity and
congruence

Circle
Theorems

Vectors and
geometric
proof

Spring Term

Algebraic
proof

Kinematics

Graphs:
reciprocal
and
exponential

Construction,
Loci and
bearings

Exam preparation and
retrieval

Y11 Higher

Y10 Foundation

Autumn Term

Integers, place value and decimals	Indices, powers and roots	Factors, multiples and primes	Algebra: the basics	Expressions, substitution and formulae	Tables, charts and graphs including pie charts and scatter graphs	FDP and percentage calculations
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Spring Term

Equations and inequalities	Sequences	Perimeter, area and volume	Properties of shapes, parallel lines and angles facts	Interior angles of polygons	Statistics, sampling and averages
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Summer Term

Real life graphs and straight line graphs	Ratio and proportion	Pythagoras and Trigonometry	Transformations
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Y11 Foundation

Autumn Term

Probability	Multiplicative reasoning	Plans and elevations	Construction, bearings and loci	Quadratic equations and graphs	Circles, cylinders, shapes and spheres	Fractions and reciprocals	Indices and standard form
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Spring Term

Similarity and congruence in 2D	Vectors	Rearranging equations	Graphs of cubic and reciprocal functions.	Simultaneous equations	Exam preparation and retrieval
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Y112 Pure

Autumn Term

Algebraic manipulation and quadratic equations. B1, B2, B3.	Simultaneous equations, linear and quadratic inequalities. B4, B5.	Polynomials and the factor theorem. B6.	Graphs and graph transformations. B7, B9.	Sine and cosine rules, $0.5ab\sin C$. Trigonometric graphs and their periodicity. E1, E3.	Using trigonometric identities and solving trigonometric equations. E5, E7.	Binomial expansion. D1.	Coordinate geometry, straight lines and circles. C1, C2.	Differentiation: 1st and 2nd derivatives, first principals, differentiating x^n for integer and rational values of n , sketching gradient functions G1, G2.
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Spring Term

Differentiation: Finding tangents, normals, stationary points. Maximising and minimising problems. G3.	Introduction to the fundamental theorem of calculus, integrate polynomials (indefinite). H1, H2.	Definite integration to find areas and work backwards to find the equation of a line given its gradient function and a point. H3.	Proof by deduction, exhaustion and contradiction. A1.	e^x and $\ln x$, logs as the inverse of exponentials, laws of logs. Solving exponential equations. F3, F4, F5.	Exponential and logarithmic graphs, using logarithms to model non-linear relationships, exponential modelling. F1, F2, F6, F7.
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Summer Term

Understand and use composite functions, inverse functions and their graphs, extend the factor theorem. B6, B8.	Combining graph transformations and the modulus function. B7, B9.	Recurrence relations, increasing, decreasing and periodic sequences, sigma notation. D2, D3.	Arithmetic sequences and series. D4.	Geometric sequences and series. D5.	Modelling with sequences and series, recognising which type of sequence is appropriate to model a situation. D6.	Binomial expansion with rational and negative powers. D1.	Summer work: Flipped learning of partial fractions. B10.
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Y12 Applied

Autumn Term

Understand the language of kinematics and travel graphs. Q1, Q2.	Derive and use the SUVAT equations. Including vertical motion under gravity. Q3. R3.	Vectors. J1, J2, J3, J4, J5.	Newton's first Law, Newton's 2nd law, including using vectors. R1, R2.	Forces vertically (weight), Newton's 3rd Law and connected particles (including pulleys). R3, R4.	Calculate and interpret measures of central tendency and variation. L3.	Interpret diagrams for single variable data. Outliers and cleaning data. L1, L4.	Scatter diagrams. L2.
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Spring Term

Probability. M1.	Discrete probability distributions. N1.	The binomial distribution. N1.	Hypothesis testing using binomial distribution. O1, O2.	Sampling methods. K1.
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Summer Term

Kinematics - Variable acceleration. Q4.	Conditional probability. M2.	Calculating with the normal distribution, standard normal distribution, finding unknown mean and standard deviation. N2.	Normal distribution - approximating the binomial distribution. N2.
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Y13 Pure

Autumn Term

Review summer learning of partial fractions and link to binomial expansion. D1.	Radian measure and small angle approximation. E1, E2, E3.	Reciprocal trig functions and their graphs. Addition and double angle formulas. E4, E5, E6.	Solve equations and construct proofs using the new trigonometric identities. E7, E8.	Differentiate trigonometric, exponential and logarithmic functions. Product rule, quotient rule and chain rule, connected rates of change. Implicit differentiation G2, G4, G5.	Convex and concave sections of curve, points of inflection. G1, G3.	Integrating trigonometric, exponential and logarithmic functions. H2.	Integration by substitution. H5.	Integration by parts. H5.
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Spring Term

Integration using partial fractions. Integrating to find area between two curves. H3, H6.	Solving and modelling with differential equations. G6, H7, H8.	Parametric equations. Using parametrics for modelling. Differentiate and integrate parametric curves. C3, C4, G5, H5.	Numerical methods: change of sign, iterative methods and diagrams, Newton-Raphson method, trapezium rule. I1, I2, I3, I4.	Exam preparation and revision.				
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Y13 Applied

Autumn Term

Be able to decide upon a suitable distribution for a given situation, critiquing assumptions.
M3, N3.

Hypothesis testing for means using the normal distribution.
O3.

Hypothesis test for correlation coefficients.
O1

Extend knowledge of Newton's Second and Third Law to include resolving into components.
R2, R3.

Resolving multiple forces meeting at any angle.
R5.

Introduction to friction, including on inclined planes. Understand the difference between limiting and non limiting equilibrium.
R6.

Spring Term

Projectile motion.
Q5.

Moments.
S1.

SUVAT and calculus in kinematics with vectors.
Q3, Q4.

Large Data Set

Exam preparation and revision.