ORMISTON RIVERS ACADEMY - CURRICULUM MAP

SUBJECT	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 7	**NUMBER** *Basic four operations *Multiplying/dividing by 10, 100, 1000 *Money and Time *Directed numbers *Factors, Primes, Multiples, *Squares and Roots **STATISTICS AND PROBABILITY** *Averages *Displaying and comparing data.	**ALGEBRA** *Simplifying expressions *Writing expressions and formulae **NUMBER** *Decimals and measures *Scales, length, mass, capacity, perimeter and area *Rounding to the nearest whole number and decimal places	**NUMBER** *Fractions- notation, order, improper/mixed/equivalent/simplify *Calculations with fractions and decimals *Percentages- parts per 100 *Fraction Decimal and Percentages *Express one quantity as a % of another **STATISTICS AND PROBABILITY** *Probability - calculating, experimental, expected outcomes	**NUMBER** *Ratio- writing and using ratio *Direct proportion *Converting between fractions, decimals and percentages	**NUMBER** *Multiplying by powers of 10 *Rounding (all types, particularly DP and SF) *Vectors and inverse operations *Perimeter, angles - worded problems *Grids and area models (multiples) * Representation of multiplication and division	**NUMBER** *Mental methods for multiplication and division *Factors; *Multiplicative reasoning *Area and volume; square and cube numbers *Powers; squares and cube roots *Roots, area and volume, *Index laws *Primes and prime factors
YEAR 8	**NUMBER** *Divisibility and division, *Calculating with directed numbers *Powers and roots *Multiples and factors **ALGEBRA** *Multiplying out single bracket **GEOMETRY AND MEASURES** *Area of a triangle, parallelogram and trapezium *Volume of cubes and cuboids *2D representations of 3D solids *Surface area of cubes and cuboids	**STATISTICS AND PROBABILITY** *Pie charts *Stem and leaf diagrams *Comparing data *Scatter graphs and misleading graphs. **ALGEBRA** *Algebraic powers *Expressions *Factorising expressions *Solving equations	**STATISTICS AND PROBABILITY** *Real – life graphs *Conversion graphs *Distance-time graphs **NUMBER** *Ordering decimals *Rounding to whole numbers and DP *Place-value calculations *Calculations with decimals *Ratio and proportion with decimals.	**GEOMETRY AND MEASURES** *Lines and angles *Quadrilaterals *Angles in parallel lines, *Exterior and interior angles *Solving geometric problems	**NUMBER** *Multiplying by powers of 10(particularly negative) *Rounding (all types, focus on DP and SF) *Vectors and inverse operations *Grids and area models; multiples *Mental methods of multiplication and division *Multiplicative reasoning; factors	**NUMBER** *Powers; squares and cube roots *Area and volume *Index Laws *Primes and prime factors *Oder of operations *Directed numbers
YEAR 9	**NUMBER** *Standard Form: calculations and estimates *Index Laws **ALGEBRA** *Solving equations	**STATISTICS AND PROBABILITY** *Planning a survey *Collecting data *Calculating averages *Displaying and analysing data	**GEOMETRY AND MEASURES** *Using scales *Basic constructions - constructing triangles *Using accurate scale diagrams	**GEOMETRY AND MEASURES** *Circles: circumference of a circle and area of a circle *Volume of prisms *Pythagoras' Theorem	**ALGEBRA** *Linear graphs: gradient of a line, equation of a line y = mx + c *Parallel and perpendicular lines	**GEOMETRY AND MEASURES** *Circles – length of an arc and area of a sector *Interior and exterior angles of polygons

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	*Using and rearranging formulae *Expanding double brackets	*Presenting and comparing data **NUMBER** *Multiplicative reasoning- Enlargement, Negative and fractional scale factors *Percentage change *Compound measures *Direct and inverse proportion	Sequences- nth term of arithmetic sequences, Non-linear sequences Solving equations and inequalities Proportion	**NUMBER** Error intervals and bounds	**GEOMETRY AND MEASURES** *Basic trigonometry * Congruence and similarity **NUMBER** *Product rule of counting	*Converting between 2D and 3D units *Planes of symmetry *Loci
YEAR 10	**FOUNDATION** *Number skills *Fractions, decimals and percentages **HIGHER** *Number – calculations *Rounding *Indices *Roots *Reciprocals *Hierarchy of operations *Factors, multiples and primes *Standard Form, *Surds, *Fractions and percentages *Averages *Representing and interpreting data	**FOUNDATION** *Ratio and proportion *Averages *Tables and charts **HIGHER** *Ratio and proportion *Rearranging and solving equations *sequences	**FOUNDATION** *Pie charts *Scatter graphs *Simplifying and substituting into algebraic expressions. *Equations and inequalities. **HIGHER** *Real life graphs *Linear, quadratic and cubic graphs *Coordinate geometry	**FOUNDATION** *Sequences *Real-life graphs *Straight line graphs * Expanding and factorising quadratics **HIGHER** *Perimeter and area of 2D shapes *Circles *Volume - cylinders, cones spheres and frustums.	**FOUNDATION** *Quadratic equations *Quadratic, cubic and reciprocal graphs *Properties of shapes *Parallel lines and angle facts *Interior and exterior angles of polygons *Perimeter, area and volume *Circles and cylinders **HIGHER** *Accuracy and bounds *Solving quadratic equations *Simultaneous equations, *Inequalities *Transformations: reflection, rotation, translation and enlargement	**FOUNDATION** *Probability **HIGHER** *Constructions *Loci *Probability
YEAR 11	**Set 1** *Coordinate geometry *Surface area *Volume: cylinder, cones, sphere and frustums *Transformations *Solving quadratics including quadratic formula *Iterative processes *Simultaneous equations *Conditional Probability **Set 2** *Sequences *Forming and solving	**Set 1** *Direct and Inverse proportion *Similarity 2D/3D shapes *Sampling *Cumulative frequency and box plots *Histograms *Graphs of trigonometric functions *Further trigonometry **Set 2** *Transformations: -ve enlargements	**Set 1** *Graphs: gradient and area under the curve *Algebraic Fractions *Functions: composite and inverse *Algebraic proof *Circle geometry- gradients and tangents *Circle theorems **Set 2** *Fractional/Negative Indices *Product Rule of Counting *Upper and Lower Bounds	**Set 1** *Congruence and similarity *Geometric proof *Vectors including vector proof *Graphs transformation **Set 2** *Rearranging formulae *Sequences including quadratic nth term **Set 3** *Sequences *Vectors	**Set 1** Revision **Set 2** Revision **Set 3** *Simultaneous equations *Direct and Inverse Proportion **Set 4** Revision	**Set 1** Revision **Set 2** Revision **Set 3** Revision **Set 4** Revision

	equations *Simultaneous equations *Direct and inverse proportion *Probability tree diagrams **Set 3** *Changing the subject of a formula *Speed, distance, time *Compound measures *Angles in parallel lines *Interior/exterior angles *Straight line graphs *Quadratic and cubic graphs *Coordinate geometry **Set 4** *Two-way tables *Frequency Trees *Venn Diagrams *Probability Tree diagrams *Basic algebraic manipulations	*Vectors *Pie Charts *Recurring decimals **Set 3** *Real-life graphs *Pythagoras' Theorem *Basic trigonometry *Bearings **Set 4** *Prime factors decomposition *Best Value *Exchange rates *Estimation	*Surds including brackets *Cumulative frequency and box plots *Expanding and factorising quadratics **Set 3** *Plans and elevations *Constructions *Circles: arcs and sectors *Surface area volume *Pie Charts *Congruency and similar shapes *Transformations **Set 4** *Proportion – Recipes/ Direct proportion *Straight line graphs, *Quadratic graphs *Angles in parallel lines *Pythagoras' Theorem *Pie Charts	*Forming and solving equations **Set 4** *Scatter graphs *Speed, distance, time *Compound measures Revision		
YEAR 12 Pure	*Algebraic Expressions *Quadratics *Equations and Inequalities	*Graphs and Transformations *Straight Line Graphs *Circles	*Binomial expansion *Differentiation	*Differentiation *Integration *Algebraic methods	*Trigonometric ratio *Trigonometric identities and equations	*Exponentials and Logarithms
YEAR 12 Applied	*Measure of location and spread *Quantities and units	*Data Collections *Representation of data *Probability *Correlation	*Modelling in mechanics *Constant acceleration *Hypothesis Testing	*Forces and motion	*Variable acceleration	*Statistical distribution
YEAR 12 Further Maths	*Complex Numbers *Argand diagrams *Poisson, binomial distribution *Momentum and impulse	*Series *Roots of polynomials *Discrete probability distribution *Work, energy and power	*Matrices *Linear transformations *Binomial distribution *Work, energy and power	*Proof by induction *Volume of revolution *Chi square tests *Elastic collision in 1D	*Complex numbers *Additional calculus (chain rule, product rule, integration by parts, integration by substitution, differentials of trigs, ln and exp functions) *Chi square tests *Elastic collision in 1D	*Hyperbolic functions *Geometric and negative binomial distributions *Momentum and impulse

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Year 12 Core Maths	*Spreadsheets, *Types and collection of data *Numerical calculations *Percentages	*Statistics and interest rates	*Equations of a straight-line *Statistical techniques- collecting data *Normal distribution *Standard deviation	*Applied statistics- financial problems *Area and perimeter	*2D/3D Pythagoras *Critical analysis *Surface area and similarity *Project work	*Personal project *Targeted revision
YEAR 13 Pure	*Algebraic methods *Functions and graphs *Sequence and series	*Sequences and series *Binomial expansion *Radians *Trigonometric functions *Trigonometry and modelling	*Binomial theorem *Trigonometry	*Trigonometry *Numerical methods *Differentiation *Integration	*Integration *Vectors *Revision	Revision
YEAR 13 Applied	*Normal distribution	*Normal distributions	*Probability *Regression and correlation	*Moments *Resolving forces *Friction *Projection	*Static particles *Vectors in kinematics *Differentiating and integrating vectors	Revision
YEAR 13 AS FM	*Vectors *Proof by induction *Series – method of Differences and Partial Fractions	*Maclaurin Series *Further calculus – improper integrals and inverse trig functions *Integration using trig substitution	*Hyperbolic functions *Polar co-ordinates	*Differential equations *More differential equations	Revision	Revision
YEAR 13 Core Maths	*Representing data diagrammatically/numerically /graphically	*Correlation and regression	*Repayments and credit *Taxation *VAT	*Probabilities and estimation *Tax-income *National insurance	Revision	Revision