Maths

Key Stage 2 Curriculum includes
Number: Negative numbers, rounding, fractions, percentages, multiples, factors and primes, basic ratio, conversions
Algebra: Use simple formula, generate a linear number sequence, simple equations
Shape: Area of triangles, rectangles and parallelograms, volume of cubes and cuboids, 2d and 3d shapes, name parts of circles, angles (triangle, on a straight line, around a point, vertically opposite).
Date : Averages from a list, bar charts, line graphs, pie charts, plotting coordinates

	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
Autumn 1	**Key skills** - Arithmetic - Fractions - Negatives - Decimals **Manipulating Algebra and solving equations** - Understand what 'algebraic expression' means - Substitution into a one or two step worded formula - Write simple algebraic expressions - Simplify expressions including with powers - Expand single brackets - Identify which	**Inequalities and review of Equations** - Equations review - Forming and solving equations including with angles and ratios - Use inequality symbols - Inequalities on a number line Solve inequalities	**Manipulating Algebra** - Revise previous learning - Substitution including positives and negatives - Substitution into algebraic formula and worded formulas - Expand brackets and simplify **Arithmetic Ratio and proportion** - Revise previous learning - Best buy - Convert between ratios and fractions - Share into a ratio given the	**Manipulating Algebra** - Revise previous year - Expand double brackets - Problem solving with algebra and shape - Simple factorising - Write algebraic expressions including brackets and powers **Arithmetic Ratio and proportion** - Revise last year - Direct and inverse proportion - Problems with ratio - Problems with ratio fractions	**Bespoke package of learning revisiting areas of weakness highlighted through question level analysis from Pre-Public Examinations**	**Algebraic manipulation, surds and indices, quadratic equations and simultaneous equations** **Graphs, linear and quadratic inequalities** **Straight lines and circles** **Differentiation**	**Trigonometry and circular measure** **Further Sequences and series** **Further differentiation** **Numerical methods**

	operation is needed in worded problems - Use inverse to solve problems - Number Machines - Use inverse to undo two step worded scenarios - 1 and two step equations with one bracket		total or one share or part of a share	and percentages - Multiply and divide decimals - Exchange rates			
Autumn 2	**Manipulating Algebra and equations continued Equations Number Properties**	**Fractions, Decimals and Percentages** - Shade fractions of a shape - Equivalent fractions - Cancel fractions - Add and subtract fractions by drawing - Simple fractions of amounts - Convert mixed numbers to improper fractions - Multiply	**Area, Perimeter Volume** - Revise previous learning - Compound areas made from rectangles, triangles, parallelograms - Draw nets of 3d shapes - Surface area of cubes and cuboids - Convert between metric units - Know parts of circles - Volume of	**Area, Perimeter Volume** - Revise last year - Area of trapeziums - Problem solving with area - Problem solving (e.g. Tiling an area) - Form and solve equations with shape		**Further Differentiation** **Integration** **Trigonometry** **Binomial Expansion** **Introduction to trigonometry**	**Further Integration** **Partial Fractions** **Numerical methods** **Parametric equations** **Functions and Transformations**

		fractions by an integer - Percentage of an amount - Add and subtract fractions where one denominator needs changing - Fractions of amounts including using a calculator - Convert fractions decimals and percentages - Percentage of an amount and problem solving	prisms **Averages, Charts and Graphs** - Revise previous learning - Draw a tally chart by grouping data. - Speed Distance time Graphs - Compare data using average and range - Stem and leaf diagrams - Draw and interpret Pie chart	**Averages, Charts and Graphs** - Revise last year - Stem and Leaf diagrams with decimals and 3-digit numbers - Scatter graphs - Frequency diagrams and polygons - Discreet and continuous data -			
Spring 1	**Averages, Charts and Graphs** - Construct a frequency table and draw appropriate chart from this - Draw and interpret bar charts - Draw and interpret pictograms - Find the mean,	**Area, Perimeter Volume** - Identify properties of 2d and 3d shapes - Perimeters and area by counting - Know standard units of measure squares - Perimeters	**Equations** - Revise previous learning - Equations where the unknown appears twice - Solving inequalities - Form and solve equations and inequalities including where the unknown	**Equations** - Revise last year - Equations with fractions - 2 sided inequalities - Form and solve equations involving geometry - Rearrange simple formula - Solve equations with		**Exponentials and Logs** **Further Trigonometry** **Proof** **Sampling** **Data representation and interpreting**	**Differential equations** **Binomial Theorem** **Kinematics in two dimensions** **Further probability**

	median, mode and range from a list of data - Time series graphs - Draw pie charts	with missing sides - Area's rectangles, triangles, parallelogram, including problem solving - Volume of cubes and cuboids	appears on both sides **Fractions, Decimals and Percentages** - Revise previous learning - Increase and decrease be a fraction or a percentage - Add and subtract fractions - Multiply fractions	y^2 (e.g., $3y^2 = 27$) **Fractions, Decimals and Percentages** - Revise last year - Order fractions decimals and percentages - Problem solving with fractions decimals and percentages - Add, subtract, multiply and divide fractions with mixed numbers - Manipulative reasoning - Use a decimal multiplier			
Spring 2	**Arithmetic Ratio and proportion** - Multiply by 10, 100 and 1000 - Add and subtract decimals - Multiply and divide a decimal by an integer - Solve problems	**Number Properties** - Write and read numbers up to millions - Use inequality symbols - Round to the nearest 10, 100, 1000 - Round to the nearest integer - Order decimals	**Probability** - Revise previous learning - Calculate the probability of an event not happening - Listing outcomes - Two-way tables and finding probabilities	**Probability** - Revise last year - Frequency trees - Expectation - Venn diagrams - Basic tree diagrams		**Probability** **Binomial distribution** **Vectors** **Kinematics in one dimension** **Forces and**	**Statistical distributions (normal)** **Statistical hypothesis testing (normal)** **Equilibrium and resolving**

	using the unitary method - Simplify ratios - Share into a ratio - Convert ratios to fractions	- BIDMAS - Order fractions by changing to a decimal - Round to up to 4 decimal places - Problem solving with Factors, multiples, primes, squares, cubes and roots - BIDMAS - Power and root natation including on a calculator - LCM, HCF	from them - Sample space diagrams **Angles** - Revise Previous learning - Problem solving with angle facts - Properties of quadrilaterals	**Angles** - Revise previous year - Complex problems with angle sums - Measure and draw bearings - Form and solve equations with angles - Bearings - Parallel lines (alternate angles, allied, corresponding		**Newtons Laws**	**Statics and dynamics** **Moments** **3D Vectors**
Summer 1	**Angles** - Angle on a straight line facts - Name angles - Draw and measure angles - Types of triangles - Angle facts and problem solving - Types of	**Sequences and Graphs** - Recognise odd and even number - Draw the next pattern in a sequence - Find missing numbers in an arithmetic sequence - Determine whether a	**Number Properties** - Revise previous learning - Round to one significant figure - Estimating - Use Venn diagrams to sort numbers - Prime factorisation - Worded LCM,	**Number Properties** - Revise last year - Problem solving with estimates - Venn diagrams and set notation - Standard form - Basic rules of indices		**Statistical hypothesis testing** **Analysis of data using statistical packages** **Forces and Newton's laws** **Revision**	**Revision**

	triangles and problem solving - Parallel and perpendicular sides - Angles in a quadrilateral	term will appear in a sequence - Simple nth term rule - Draw and label axis - Plot coordinates in all 4 quadrants - Find the midpoint between two coordinates - Draw horizontal and vertical lines (x=, y=) - Draw simple linear graphs	HCF problems **Sequences and Graphs** - Revise previous learning - Find the nth term of a sequence - Draw diagonal lines (y=x, y=-x) - Draw basic linear graphs from a table of values	**Sequences and Graphs** - Revise last year - Fibonacci sequences - Find a given term using the nth term rule - Determine whether a number will appear in a sequence given the nth term rule. - Draw linear graphs from a table of values not in the form y=mx+c - Find the midpoint of a line segment - Draw nonlinear graphs by finding a table of values			
Summer 2	**Probability** - Draw and allocate events to a probability scale in words or numbers - Probability in words - Theoretical	**Transformations** - Lines of symmetry - Rotational symmetry - Reflect in the y axis and x axis - Reflect in a given diagonal	**Transformations** - Revise previous learning - Rotate a shape from a given point - Plans and elevations - Reflect in	**Transformations** - Revise last year - Reflect in the lines y = , x = y=x and y=-x - Enlarge by a positive scale factor from a coordinate		**Revision** **Mocks** **Start year 13** **Trigonometry (circular measures)**	

	probabilities - Theoretical probabilities, problem solving - Simple two-way tables	line - Rotate shapes - Tessellate a shape - Enlarge by a positive scale factor - Worded translation - Draw a circle	horizontal and vertical lines	- Translate a shape by a vector - Rotate a shape from a coordinate - Identify congruent and similar shapes - Describe transformations - Vector arithmetic		**Trigonometry (identities)** **Sequences and Series**	