

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	Manipulating Algebra <ul style="list-style-type: none"> - Substitution including positives and negatives - Substitution into algebraic formula and worded formulas - Write algebraic expressions including brackets and powers - Simplify expressions - Expand brackets and simplify - Simple factorising Angles <ul style="list-style-type: none"> - Revise angle facts - Draw and measure 	Manipulating Algebra <ul style="list-style-type: none"> - Revise previous year - Substitution involving fractions and decimals - Factorise complex expressions involving multiple letters and powers - Expand double brackets - Problem solving with algebra and shape Angles <ul style="list-style-type: none"> - Revise previous year - Complex problems with 	Manipulating Algebra <ul style="list-style-type: none"> - Revise previous year - Factorise simple quadratics with no coefficient of x^2 Angles <ul style="list-style-type: none"> - Revise previous year - Complex problems with 	Manipulating Algebra <ul style="list-style-type: none"> - Revise previous year - factorise quadratics including the difference of 2 squares - expand polynomials - simplify algebraic fractions - basic poof - functions Angles <ul style="list-style-type: none"> - Revise previous year - Circle theorems (first 4) 	Manipulating Algebra <ul style="list-style-type: none"> - Revise previous year - Iteration - Complex proof - Further functions - Factorise quadratics with a coefficient of x^2 Angles <ul style="list-style-type: none"> - Revise previous year - All circle theorems 	Algebraic manipulation, quadratic equations and simultaneous equations Graphs, linear and quadratic inequalities Straight lines and circles	Trigonometry and circular measure Functions and transformations Further differentiation

	angles <ul style="list-style-type: none"> - Measure and draw bearings - Types of triangle - Basic problem solving with angle facts - Parallel and perpendicular sides 	angle sums <ul style="list-style-type: none"> - Form and solve equations with angles - Parallel lines (alternate angles, allied, corresponding) - Properties of quadrilaterals - Bearings 	parallel lines <ul style="list-style-type: none"> - Complex bearings questions - Basic trigonometry - Form and solve equations with angles where there are 2 unknowns - Basic angles in polygons 	<ul style="list-style-type: none"> - Trigonometry (problem solving) - Complex angles in polygons - More bearings 	with problem solving <ul style="list-style-type: none"> - Sine and cosine rule - 3d trigonometry - Know exact trig values between 0-360 		
Autumn 2	Equations <ul style="list-style-type: none"> - 2 step equations - Equations with one bracket - Inequalities on a number line - Solving inequalities 	Equations <ul style="list-style-type: none"> - Revise last year - Equations with fractions - 2 sided inequalities - Form and solve equations involving geometry - Rearrange 	Equations <ul style="list-style-type: none"> - Revise last year - Solve equations with fractions on both sides - Simultaneous equations (including negatives) - Worded simultaneous 	Equations <ul style="list-style-type: none"> - Revise last year - Rearrange formula where the unknown appears twice - Solve quadratic equations by factorising - Form and solve quadratic 	Equations <ul style="list-style-type: none"> - Revise last year - Solve quadratic equations using the formula and problem solving with this 	Differentiation Integration Trigonometry	Further integration Numerical methods Parametric equations

	<ul style="list-style-type: none"> - Form and solve equations and inequalities including where the unknown appears on both sides 	<ul style="list-style-type: none"> - simple formula - Solve simple linear simultaneous equations - Solve equations with y^2 (e.g. $3y^2 = 27$) 	<ul style="list-style-type: none"> - equations - Rearrange formula including brackets and powers - Draw inequalities on a graph and find the feasible region 	<ul style="list-style-type: none"> - equations from worded scenarios - Name inequalities from graphs to give a feasible region. 	<ul style="list-style-type: none"> - Solve quadratic inequalities - Solve quadratic simultaneous equations 		
	Number Properties <ul style="list-style-type: none"> - Order decimals - Round to decimal places - Round to one significant figure - Estimating - Factors, multiples, primes, squares, cubes and roots - Use Venn diagrams to sort numbers - LCM, HCF - Prime factorisation - Basic rules of indices 	Number Properties <ul style="list-style-type: none"> - Revise last year - Upper and lower bounds (simple) - Problem solving with estimates - Venn diagrams and set notation - Standard form - More complex rules of indices 	Number Properties <ul style="list-style-type: none"> - Revise last year - Worded problems with upper and lower bounds - Fractional and negative indices - Harder problem solving with standard form - Choices and outcomes 	Number Properties <ul style="list-style-type: none"> - Revise last year - Problem solving with indices - Simplify surds - Harder calculations in standard form (+, - $\times \div$) - Choices and outcomes 	Number properties <ul style="list-style-type: none"> - Revise last year - Add, subtract, multiple and divide surds - Rationalise the denominator - Multiply brackets with surds and simplify 		

Spring 1	Area, Perimeter Volume <ul style="list-style-type: none"> - Identify properties of 2d and 3d shapes - Perimeters - Compound areas made from rectangles, triangles, parallelograms - Volume of cubes and cuboids - Draw nets of 3d shapes - Surface area of cubes and cuboids - Covert between metric units - Know parts of circles - Volume of prisms 	Area, Perimeter Volume <ul style="list-style-type: none"> - Revise last year - Area trapeziums - Volume of prisms including cylinders - Area and circumference of circles - Pythagoras - Tilling - Form and solve equations with shape - Mass density volume 	Area, Perimeter Volume <ul style="list-style-type: none"> - Revise last year - Find the surface area of 3d shapes including cylinders - Problem solving with trigonometry and Pythagoras - Area and perimeter of sectors 	Area, Perimeter Volume <ul style="list-style-type: none"> - Revise last year - Volume and surface area of spheres, cones and pyramids - Problem solving with cones, spheres including working backwards to find a missing dimension - Area and perimeter of Arcs, segments and sectors including working backwards 	Area, Perimeter Volume <ul style="list-style-type: none"> - Revise last year - Area of a triangle using $\frac{1}{2}ab\sin C$ - Arc, segments and sectors (problems using the sine rule) - 3d Pythagoras - Volume of a frustum 	Vectors Proof Exponentials and Logs	Partial fractions and integration Trigonometry Differential equations Kinematics in two dimensions Equilibrium and resolving Further probability

	Charts and Graphs <ul style="list-style-type: none"> - Construct a frequency table - Dual compound bar charts - Draw a tally chart by grouping data. - Line graphs and time series graphs - Speed Distance time Graphs - Mean median mode and range from a list of data - Stem and leaf diagrams - Draw and interpret Pie chart 	Charts and Graphs <ul style="list-style-type: none"> - Revise last year - Calculate average speed - Compare sets of data using average and range - Stem and Leaf diagrams with decimals and 3-digit numbers - Scatter graphs - Frequency diagrams and polygons - Discreet and continuous data 	Charts and Graphs <ul style="list-style-type: none"> - Revise last year - Calculate averages and range from a frequency table - Back to back stem and leaf diagrams - Limitations of predictions from scatter graphs - Convert between units of speed - Complex interpretation from pie charts 	Charts and Graphs <ul style="list-style-type: none"> - Revise last year - Box plots - Cumulative frequency - Compare data using box plots and cumulative frequency 	Charts and Graphs <ul style="list-style-type: none"> - Revise last year - Draw and interpret histograms - Estimating gradients from Distance time graphs and velocity time graphs - Estimate the area under a curve with velocity time graphs 		
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Spring 2	Sequences and Graphs <ul style="list-style-type: none"> - Find the nth term of a sequence - Plot coordinates - Draw horizontal and vertical lines ($x=$, $y=$) - Draw basic linear graphs from a table of values 	Sequences and Graphs <ul style="list-style-type: none"> - 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 	Sequences and Graphs <ul style="list-style-type: none"> - Revise last year - Find the nth term of a nonlinear sequence using a related sequence - Find missing terms in algebraic sequences - Draw linear graphs using the y-intercept method - Draw nonlinear graphs by finding a table of values 	Sequences and Graphs <ul style="list-style-type: none"> - Revise last year - Parallel and perpendicular lines - Sketch quadratics - Recognise reciprocal and exponential graphs - Solve simultaneous equations graphically 	Revision and GCSE exams	Statistical sampling Data presentation and interpretation Kinematics in one dimension	Statistical distributions (normal) Statistical hypothesis testing (normal) Statics and dynamics Moments
	Fractions, Decimals and Percentages <ul style="list-style-type: none"> - Fractions of amounts - Increase and decrease be a fraction or a percentage - Cancel fractions - Convert fractions decimals and 	Fractions, Decimals and Percentages <ul style="list-style-type: none"> - Revise last year - Order fractions decimals and percentages - Problem solving with fractions decimals and percentages - Add, subtract, multiply and 	Fractions, Decimals and Percentages <ul style="list-style-type: none"> - Revise last year - Use a decimal multiplier - Compound interest - Reverse percentages - Percentage change - Simple algebraic 	Fractions, Decimals and Percentages <ul style="list-style-type: none"> - Revise last year - Convert recurring decimals to fractions - Complex algebraic fractions 			

	percentages <ul style="list-style-type: none"> - Add and subtract fractions - Multiply fractions by an integer 	divide fractions with mixed numbers <ul style="list-style-type: none"> - Manipulative reasoning 	fractions				
Summer 1	Transformations <ul style="list-style-type: none"> - Reflect in the y axis and x axis - Reflect in a given diagonal line - Lines of symmetry - Rotational symmetry - Tessellate a 	Transformations <ul style="list-style-type: none"> - Revise last year - Reflect in the lines $y =$, $x =$ $y=x$ and $y=-x$ - Enlarge by a positive scale factor from a coordinate - Translate a shape by a vector 	Transformations <ul style="list-style-type: none"> - Revise last year - Enlarge by a fractional scale factor - Describe transformations - Draw to scale and interpret scale drawing and maps - Solve problems with similar 	Transformations <ul style="list-style-type: none"> - Revise last year - Solve problems with similar shapes including area and volume scale factors - Determine whether a regular polygon tessellates 		Probability and Statistical Distributions Statistical hypothesis testing Analysis of data using statistical	Revision

	<p>shape</p> <ul style="list-style-type: none"> - Enlarge by a positive scale factor - Worded translate - Rotate a shape from a given point - Plans and elevations <p>Probability</p> <ul style="list-style-type: none"> - Probability Scale - Probability in words - Theoretical probabilities - Calculate the probability of an event not happening - Listing outcomes - Two-way tables - Sample space diagrams 	<ul style="list-style-type: none"> - Rotate a shape from a coordinate - Identify congruent and similar shapes <p>Probability</p> <ul style="list-style-type: none"> - Revise last year - Frequency trees - Expectation - Venn diagrams 	<p>shapes</p> <ul style="list-style-type: none"> - Vector arithmetic - Constructions - Loci <p>Probability</p> <ul style="list-style-type: none"> - Revise last year - Relative frequency - Sampling - Stratified sample - Capture recapture - Basic tree diagrams 	<ul style="list-style-type: none"> - Enlarge from a coordinate by a negative scale factor - Vector geometry <p>Probability</p> <ul style="list-style-type: none"> - Revise last year - Tree diagrams for dependent events - Complex problems involving ratios - Complex Venn diagram problems - Combinations 		<p>packages</p> <p>Forces and Newton's laws</p>	
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Summer 2	Arithmetic Ratio and proportion <ul style="list-style-type: none"> - Negative numbers - Add and subtract decimals - Multiply by 10, 100 and 1000 - Long multiplication - Multiply a decimal by an integer - Bus-stop division - Divide a decimal by a simple integer - Solve problems using the unitary method - Best buy - Money - Simplify ratios - Convert between 	Arithmetic Ratio and proportion <ul style="list-style-type: none"> - Revise last year - Direct and inverse proportion - Problems with ratio - Problems with ration fractions and percentages 	Arithmetic Ratio and proportion <ul style="list-style-type: none"> - Revise last year - Multiply and divide decimals - Exchange rates - Complex ratio proportion questions 	Arithmetic Ratio and proportion <ul style="list-style-type: none"> - Revise last year - Direct and inverse proportion formal method 		Revision Mocks Start year 13 Algebraic manipulation (inc extra factor theorem and functions)	

	<div>ratios and fractions</div> <div>- Share into a ratio given the total or one share</div>						
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