

PCS Maths curriculum Map

	Competencies apply to all sows	Year 7 Whole year group does the same topic at the same time Cumulative assessments. One week re-teach after each test. Times Table Rock Stars each lesson	Year 8 Whole year group does the same topic at the same time Cumulative assessments. One week re-teach after each test. Times Table Rock Stars each lesson
Autumn 1 [20 lessons approx.]	AO1 Use and apply standard techniques Students should be able to: <ul style="list-style-type: none">accurately recall facts, terminology and definitionsuse and interpret notation correctlyaccurately carry out routine procedures or set tasks requiring multi-step solutions. AO2 Reason, interpret and communicate mathematically Students should be able to: <ul style="list-style-type: none">make deductions, inferences and draw conclusions from mathematical informationconstruct chains of reasoning to achieve a given resultinterpret and communicate information accuratelypresent arguments and proofsassess the validity of an argument and critically evaluate a given way of presenting information. AO3 Solve problems within mathematics and in other contexts Students should be able to: <ul style="list-style-type: none">translate problems in mathematical or nonmathematical contexts into a process or a series of mathematical processesmake and use connections between different parts of mathematicsinterpret results in the context of the given problemevaluate methods used and results obtainedevaluate solutions to identify how they may have been affected by assumptions made	First 40 [? Place value (inc. decimals) Multiply and divide by 10, 100, 1000 Add and subtract (inc. decimals) Checking solutions Perimeter Word Problems Multiply and divide (inc. decimals) Area of rectangle and triangle Calculate the mean Factors, HCF, Primes]	Number [Indices Prime factorization HCF, LCM, squares, cubes Order of operations Rounding, sig figs and estimation Multiply and divide fractions and mixed numbers Calculate with positive rational and decimal numbers Using a calculator]
Autumn 2			Algebraic Expressions [Negative numbers and inequality statements Calculate and evaluate expressions with rational numbers Algebraic manipulation Linear equations Expressions and equations from real-world situations]
Spring 1		Geometry [Draw, measure and name acute and obtuse angles Find unknown angles (straight lines, at a point, vertically opposite) Properties of triangles and quadrilaterals Area of parallelograms]	2D and 3D Geometry [Drawing accurate triangles and quadrilaterals Finding unknown angles (including parallel lines) Conversion between length units (and area and volume units) Area and perimeter of composite figures Area of trapeziums Area of circles Surface area of cuboids Visualise and identify 3D shapes and their nets Circumference of a circle Volume of cuboid, prism, cylinder, composite solids]
Spring 2		Fractions [Equivalent fractions Compare and order fractions and decimals Multiples and LCM Add and subtract fractions Change mixed numbers to improper fractions and vice versa Fraction of a quantity]	Proportional Reasoning [Convert between fractions, decimals and percentages Percentage increase and decrease, finding the whole given the part and the percentage Ratio (equivalent, of a quantity) and rate Speed, distance, time Multiply and divide fractions]
Summer 1		Algebra [Order of operations Substitution Simplifying algebraic expressions Solve word problems with expressions Sequences]	Statistics [Collect and organise data Construct and interpret graphs – pictograms, bar charts, pie charts, line graphs Identify and compare statistical representations using averages and range Comparing two data sets Stem and leaf Mean from grouped data Scatter diagrams Probability]
Summer 2		Percentages and Pie Charts [Read and interpret pie charts Convert between fractions, decimals and percentages Percentage of a quantity Find the whole, given the part and the percentage]	

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	Competencies apply to all SOWs	Year 9 Foundation Cumulative assessments. One week re-teach after each test. MathsBot cumulative quizzes each lesson	Yr 9 higher Cumulative assessments. One week re-teach after each test. MathsBot cumulative quizzes each lesson	Year 10 Whole year group does the same topic at the same time Cumulative assessments. One week re-teach after each test. MathsBot cumulative quizzes each lesson	Year 11 Whole year group does the same topic at the same time Cumulative assessments. One week re-teach after each test. MathsBot cumulative quizzes each lesson
Autumn 1 [20 lessons approx.]	AO1 Use and apply standard techniques Students should be able to: <ul style="list-style-type: none"> accurately recall facts, terminology and definitions use and interpret notation correctly accurately carry out routine procedures or set tasks requiring multi-step solutions. AO2 Reason, interpret and communicate mathematically Students should be able to: <ul style="list-style-type: none"> make deductions, inferences and draw conclusions from mathematical information construct chains of reasoning to achieve a given result interpret and communicate information accurately present arguments and proofs assess the validity of an argument and critically evaluate a given way of presenting information. AO3 Solve problems within mathematics and in other contexts Students should be able to: <ul style="list-style-type: none"> translate problems in mathematical or nonmathematical contexts into a process or a series of mathematical processes make and use connections between different parts of mathematics interpret results in the context of the given problem evaluate methods used and results obtained evaluate solutions to identify how they may have been affected by assumptions made 	Number [non-calculator arithmetic, negative numbers, BIDMAS, rounding and estimation, using a calculator, percentages, standard form]	Number 1 [Non-calculator arithmetic, Using a calculator, Estimation, Indices, Standard form, Percentages, Surds]	Graphs [F] Transformations Equations and inequalities [H]	Congruence, similarity and vectors Vectors and geometric proof
Autumn 2		Shape [properties of shapes, symmetry, Area and perimeter, including arcs and sectors of circles, Circle words, time, plans and elevations, construction and loci, real-life graphs]	Shape [Plans and Elevations, Construction and Loci, Area, Surface Area, Volume, Metric units , Pythagoras]	Probability [F/H] Multiplicative reasoning Ratio and proportion	Fractions, indices and standard form Proportion and graphs
Spring 1		Algebra [substitution, simplifying expressions, expand single and double brackets, factorise single brackets, sequences: linear and quadratic (generating only, not nth term for quadratic sequences), linear graphs, Quadratic/cubic/reciprocal graphs]	Algebra [Substitution, Expand single and double brackets, and simplify expressions, Factorise single brackets, solving solutions, Rearranging formulas, Linear graphs inc parallel/perpendicular, Quadratic/cubic/reciprocal/exponential graphs, Real life graphs] Data [Frequency Diagrams Pie Charts, Averages, Mean from Grouped Data, Comparing two data sets, Cumulative Frequency and Box Plots, Scatter Diagrams]	Right-angled triangles Similarity and congruence More trigonometry	More algebra
Spring 2				Constructions, loci and bearings Further Statistics Equations and graphs	
Summer 1 and 2		Data [Frequency Diagrams Pie Charts, Two Way Tables, Averages, Mean from Grouped Data, Comparing two data sets, Scatter Diagrams]	Number 2 [Four rules of fractions, Four rules of decimals, Recurring decimals to fractions, F, D, P conversions, HCF/LCM, Ratio, direct and inverse proportion]	Quadratic equations and graphs Perimeter, area and volume 2 Circle theorems Algebra	