









Curriculum Progress Plan

MATHS

Key Stage 4

Year 2018-19

	HALF TERM 1	HALF TERM2	HALF TERM3	HALF TERM 4	HALF TERM 5	HALF TERM 6
Topic Titles	Number 1 Expressions Angles and Polygons	Handling Data 1 Fractions, Decimals and Percentages Formulae and Functions	Working in 2-D Probability Measures and Accuracy Equations and Inequalities	Circles and Construction Ratio and Proportion Factors, Powers and Roots Graphs 1 Working in 3-D	Handling Data 2 Calculations 2 Graphs 2 Pythagoras and Trigonometry Probability - Combined events	Sequences Units and proportionality Bespoke selection of individual catch up and extension
Objectives	N1 Order positive and negative	S2 Construct and interpret frequency	G14 Accurately draw and measure	G9 Identify and apply circle	S2 Interpret and construct tables,	A23 Find terms of a linear sequence
(The things we want the pupils to	integers and decimals using the	tables and two-way tables; Construct	lines and angles	definitions, properties and formulae;	graphs and charts for discrete,	using term-to-term or position to
make progress in)	symbols =, ≠, <, >, ≤, ≥	and interpret pictograms, bar line	G15 Use standard units for lengths	H find the area and circumference of	continuous and grouped data	term rules
	N2 Use place value when calculating	charts and bar charts; Interpret and	and areas; Use bearings; Interpret	a circle and composite shapes	S4 Use the median, mean, modal	A24 Recognise special sequences
	with decimals; Add and subtract	construct pie charts and know their	maps and scale drawings	involving circles	class and range to interpret and	R11 Calculate with standard and
	positive and negative integers and	appropriate use	G16 Know and apply formulae for	H calcuate arc lengths, angles and	compare distributions	compound units
	decimals, Multiply and divide	S4 Compare distributions using	areas of triangles, parallelograms and	areas of sectors	S6 Use correlation to describe scatter	H Compare lengths, areas and
	positive and negative integers and	median, mean mode and range and	trapeziums	H Prove and apply the circle	graphs but know it does not imply	volumes of similar shapes
	decimals.	identify outliers	H Calculate areas of triangles,	theorems	causation; Draw estimated lines of	R10 Solve direct and inverse
	N15 Round to a number of decimal	H Calculate inter-quartile range and	parallelograms, trapezia and	G2 Construct triangles; Use the	best fit and make predictions but	proportion problems
	places or significant figures	use in comparison of data sets	composite shapes	standard ruler and compass		R16 Set up, solve and interpret
	'	H Use frequency tables to represent	G7 & G24 Identify, describe and	constructions; Solve loci problems		growth and decay problems
	calculations in the right order	grouped data	construct reflections, rotations,	R8 Use Fractions and percentages to	for time series.	H Describe direct and inverse
	A1 use and interpret algebraic	H Construct Histograms with equal or	translations and enlargements	describe a proportion	H Calculate summary statistics from	proportion relationships using an
	notation	unequal class widths	H Describe and construct	R4 Write ratio in its simplest form	a grouped frequency table	equation
	A2 substitute numerical values into	N10 Convert between terminating	enlargements with fractional snd	R9 Solve problems involving	H Construct and interpret cumulative	H Recognise graphs showing direct
	formulae and expressions	decimals and their corresponding	negative scale factors	percentage change	frequency curves and box plots	and inverse proportion and interpret
	A3 understand and use the concepts	fractions; Compare decimals and	H Identify what changes and what is	H Divide in a given ratio	N7 Calculate with Integer Indices	the gradient of a straight line graph
	and vocabulary of expressions,	fractions using the symbols > and <	invariant under a combination of	H Calculate percentage increases or	N8 Calculate exactly with fractions	H Find the instantaneous and
	equations, formulae, terms and	N8 Find fractions and percentages of	transformations	decreases using multiplication	and multiples of π	average rate of change of a graph
	factors	amounts; Add, subtract, multiplay	P1 Use experimental data to	H Reverse a percentage change to	H Perform exact calculations	H Solve repeated proportional
	H Multiply a term over a bracket	and divide simple fractions and	estimate probabilities and expected	find the original value	involving surds	change problems
	H Take out common factors in an	mixed numbers	frequencies	N4 Use Venn diagrams or factor trees	N9 Calculate with and interpret	
	expression	N12 Convert between fractions,	P2 Calculate theoretical probabilities	to sytematically list the prime factors	numbers written in standard form	
	H Simplify algebraic fractions and	decimals and percentages	and expected frequencies using the	of a number	A11 Draw graphs of quadratic	
	carry out arithmetic operations with	H Convert between fractions,	idea of equally likely outcomes	N5 Use prime factor decomposition	functions; Solve quadratic equations	
	algebraic fractions	recurring decimals, and percentages	P3 Compare theoretical probabilities	to find HCF and LCM of two or more	using graphs	
	R10 simplify and manipulate	H Order fractions, decimals and	with experimental probabilities	numbers	A12 Recognise, sketch and interpret	

Stage 5	Assuming the objectives for stage 4	Assuming the objectives for stage 4	Assuming the objectives for stage 4			
GCSE 7-9	have been met extension objectives	have been met extension objectives	have been met extension objectives			
	are:-	are:-	are:-	are:-	are:-	are:-
	H Use BIDMAS to complete	H Calculate inter-quartile range and	H Calculate areas of triangles,	H find the area and circumference of	H Interpret and construct line graphs	H Compare lengths, areas and
	calculations in the right order	use in comparison of data sets	parallelograms, trapezia and	a circle and composite shapes	for time series.	volumes of similar shapes
	H Multiply a term over a bracket	H Use frequency tables to represent	composite shapes	involving circles	H Calculate summary statistics from	H Describe direct and inverse
	H Take out common factors in an	grouped data	H Describe and construct	H calcuate arc lengths, angles and	a grouped frequency table	proportion relationships using an
	expression	H Construct Histograms with equal or	enlargements with fractional snd	areas of sectors	H Construct and interpret cumulative	equation
	H Simplify algebraic fractions and	unequal class widths	negative scale factors	H Prove and apply the circle	frequency curves and box plots	H Recognise graphs showing direct
	carry out arithmetic operations with	H Convert between fractions,	H Identify what changes and what is	theorems	H Perform exact calculations	and inverse proportion and interpret
	algebraic fractions	recurring decimals, and percentages	invariant under a combination of	H Divide in a given ratio	involving surds	the gradient of a straight line graph
	H Identify congruent shapes and use	H Order fractions, decimals and	transformations	H Calculate percentage increases or	H Recognise, sketch and interpret	H Find the instantaneous and
	congruence to prove geometric	percentages	H Solve problems involving speed	decreases using multiplication	graphs of exponential functions	average rate of change of a graph
	results	H Rearrange formulae to change the	and density	H Reverse a percentage change to	H Recognise, sketch and interpret	H Solve repeated proportional
	H Identify similar shapes and use	subject	H Work out upper and lower bounds	find the original value	graphs of trigonometric functions	change problems
	similarity to find lengths and areas	H Write an equation to represent a	for a value that has been rounded	H Simplify expressions involving	H Recognise, sketch translations and	
	H Use bearings to specify directions	function and find inputs and outputs	H Use iterative processes to find	Surds including rationalising fractions	reflections of graphs	
		H Find the inverse of a function and	approximate olutions to equations	H Draw line graphs and quadratic	H Approximate the gradient of a	
		construct and use composite	H Solve quadratic equations using	curves	curve at a given point and the area	
		functions	factorisation, completing the square	H Identify roots, intercepts and	under a graph. Interpret these values	
		H Construct proofs of simple	and the quadratic equation formula	turning points of quadratic curves	in real life problems including	
		statements using algebra	H Solve lineaar inequalities in 2	using graphical and algebraic	kinematic graphs	
		H Expand and factorise quadratics	variables and show the answer on a	methods	H Recognise and use simple(!)	
			graph	H Calculate the surface area and	equations of circles and find the	
				volume of spheres, pyramids, cones	tangent to a circle at a point	
				and composite shapes	H Know or find the exact values of sin	
				H Know and apply the relationship	and cos for key angles	
				between length, areas and volumes	H Use sine and cosine rules to find	

Stage 4	N1 Order positive and negative	S2 Construct and interpret frequency	G14 Accurately draw and measure	G9 Identify and apply circle	S2 Interpret and construct tables,	A23 Find terms of a linear sequence
GCSE 5-6	integers and decimals using the	tables and two-way tables; Construct	lines and angles	definitions, properties and formulae;	graphs and charts for discrete,	using term-to-term or position to
	symbols =, ≠, <, >, ≤, ≥	and interpret pictograms, bar line	G15 Use standard units for lengths	G2 Construct triangles; Use the	continuous and grouped data	term rules
	N2 Use place value when calculating	charts and bar charts; Interpret and	and areas; Use bearings; Interpret	standard ruler and compass	S4 Use the median, mean, modal	A24 Recognise special sequences
	with decimals; Add and subtract	construct pie charts and know their	maps and scale drawings	constructions; Solve loci problems	class and range to interpret and	R11 Calculate with standard and
	positive and negative integers and	appropriate use	G16 Know and apply formulae for	R8 Use Fractions and percentages to	compare distributions	compound units
	decimals, Multiply and divide	S4 Compare distributions using	areas of triangles, parallelograms and	describe a proportion	S6 Use correlation to describe scatter	R10 Solve direct and inverse
	positive and negative integers and	median, mean mode and range and	trapeziums	R4 Write ratio in its simplest form	graphs but know it does not imply	proportion problems
	decimals.	identify outliers	G7 & G24 Identify, describe and	R9 Solve problems involving	causation; Draw estimated lines of	R16 Set up, solve and interpret
	N15 Round to a number of decimal	N10 Convert between terminating	construct reflections, rotations,	percentage change	best fit and make predictions but	growth and decay problems
	places or significant figures	decimals and their corresponding	translations and enlargements	N4 Use Venn diagrams or factor trees	understand their limitations	
	A1 use and interpret algebraic	fractions; Compare decimals and	P1 Use experimenatl data to	to sytematically list the prime factors	Interpret and construct line graphs	
	notation	fractions using the symbols > and <	estimate probabilities and expected	of a number	for time series.	
	A2 substitute numerical values into	N8 Find fractions and percentages of	frequencies	N5 Use prime factor decomposition	N7 Calculate with Integer Indices	
	formulae and expressions	amounts; Add, subtract, multiplay	P2 Calculate theoretical probabilities	to find HCF and LCM of two or more	N8 Calculate exactly with fractions	
	A3 understand and use the concepts	and divide simple fractions and	and expected frequencies using the	numbers	and multiples of π	
	and vocabulary of expressions,	mixed numbers	idea of equally likely outcomes	N6 Write the HCF and LCM using	N9 Calculate with and interpret	
	equations, formulae, terms and	N12 Convert between fractions,	P3 Compare theoretical probabilities	product notation; Calculate positive	numbers written in standard form	
	factors	decimals and percentages	with experimental probabilities	integer powers and their roots;	A11 Draw graphs of quadratic	
	R10 simplify and manipulate	A2 Substitute numerical values into	P4 Recognise mutually exclusive	Recognise powers of 2, 3, 4, and 5	functions; Solve quadratic equations	
	algebraic expressions including the	formulae and expressions	events and exhaustive events and	A8 Work with co-ordinates in all four	using graphs	
	laws of indices	A3 Identify inequalities, equations,	know that the probability of mutually	quadrants	A12 Recognise, sketch and interpret	
	G3 apply the properties of angles at a	formulae and identities	exclusive events sum to 1	A9 Plot straight line graphs; EXTN:	graphs of linear, quadratic, cubic and	
	point, angles at a point on a straight	A4 Expand double brackets;	N15 Round numbers and measures	use the form y=mx+c to identify	reciprocal functions	
	line, vertically opposite angles;	Factorise quadratics of the form x2 +	to an appropriate degree of accuracy	parallel lines; find the equation of the	A14 Plot and interpret real-life	
	understand and use alternate and	bx+c	N14 Use approximation to make	line through two given points, or	graphs	
	corresponding angles on parallel lines		estimates; Check calculations using	through one point with a given	G20 Use the formula for Pythagoras	
	G4 Derive and use the sum of angles		approximation and estimation	gradient	Theorem; Use the trigonometric	

Stage 3	N1 Order positive and negative	S2 Construct and interpret frequency	G14 Accurately draw and measure	G9 Identify and apply circle	S2 Interpret and construct tables,	A23 Find terms of a linear sequence
GCSE 3-4	integers and decimals using the	tables and two-way tables; Construct	lines and angles	definitions, properties and formulae;	graphs and charts for discrete and	using term-to-term or position to
	symbols =, ≠, <, >, ≤, ≥	and interpret pictograms, bar line	G15 Use standard units for lengths	G2 Construct triangles	grouped data	term rules
	N2 Use place value when calculating	charts and bar charts; Interpret and	and areas; Use bearings; Interpret	R8 Use Fractions to describe a	S4 Use the median, mean, modal	A24 Recognise special sequences
	with decimals; Add and subtract	construct pie charts and know their	maps and scale drawings	proportion	class and range to interpret and	R11 Calculate with standard and
	positive and negative integers and	appropriate use	G16 Know and apply formulae for	R4 Write ratio in its simplest form	compare distributions	compound units
	decimals, Multiply and divide	S4 Compare distributions using	areas of triangles, parallelograms	R9 Find percentages of amounts	S6 Use correlation to describe scatter	R10 Solve direct proportion problem
	positive and negative integers and	median, mean mode and range	G7 & G24 Identify, describe and	N4 Use factor trees to sytematically	graphs; Draw estimated lines of best	
	decimals.	N10 Convert between terminating	construct reflections, rotations,	list the prime factors of a number	fit and make predictions	
	N15 Round to a number of decimal	decimals and their corresponding	translations and enlargements	N5 Use lists of multiples to find LCM	Interpret and construct line graphs	
	places or significant figures	fractions	P1 Use experimenatl data to	of two or more numbers	for time series.	
	A1 use and interpret algebraic	N8 Find fractions and percentages of	estimate probabilities	N6 Write the HCF and LCM using	N7 Calculate with Integer Indices	
	notation	amounts; Add, subtract, multiplay	P2 Calculate theoretical probabilities	product notation; Recognise	N8 Calculate exactly with fractions	
	A2 substitute numerical values into	and divide simple fractions	and expected frequencies using the	powers of 2, 3,	and multiples of π	
	formulae and expressions	N12 Convert between fractions,	idea of equally likely outcomes	A8 Work with co-ordinates in all four	N9 interpret numbers written in	
	A3 understand and use the concepts	decimals and percentages	P3 Compare theoretical probabilities	quadrants	standard form	
	and vocabulary of expressions,	A2 Substitute numerical values into	with experimental probabilities	A9 Plot straight line graphs; EXTN:	A11 Draw graphs of quadratic	
	equations, formulae, terms and	formulae and expressions	P4 Recognise mutually exclusive	use the form y=mx+c to identify	functions;	
	factors	A3 Identify inequalities, equations,	events and know that the probability	parallel lines;	A14 Plot and interpret real-life	
	R10 simplify and manipulate	formulae and identities	of mutually exclusive events sum to 1	A14 plot and interpret graphs, and	graphs	
	algebraic expressions including the	A4 Expand double brackets;	N15 Round numbers and measures	graphs of non-standard functions in	G20 Use the formula for Pythagoras	
	laws of indices		to an appropriate degree of accuracy	real contexts, to find approximate	Theorem;	
	G3 apply the properties of angles at a		N14 Use approximation to make	solutions to problems	P6 Construct possibility spaces and	
	point, angles at a point on a straight		estimates; Check calculations using	G12 Identify the number of faces,	use these to calculate probabilities;	
	line, vertically opposite angles;		approximation and estimation	edges and vertices of 3D shapes;		
	G4 Derive and use the sum of angles		N13 Use standard units of length,	Construct and interpret plans and		
	in a triangle and use it to deduce the		mass, volume, capacity, time and	elevations of 3D shapes		
	angle sum in any polygon		area	G16 Calculate the volume of cuboids,		

Stage 2	N1 Order positive and negative	S2 Construct and interpret frequency	G14 Accurately draw and measure	G9 Identify and apply circle	S2 Interpret and construct tables,	A23 Find terms of a linear sequence
GCSE 1-2	integers and decimals using the	tables and two-way tables; Construct	lines and angles	definitions, properties and formulae;	graphs and charts for discrete and	using term-to-term rules
	symbols =, ≠, <, >, ≤, ≥	and interpret pictograms, bar line	G15 Use standard units for lengths	G2 Construct triangles	grouped data	A24 Recognise special sequences
		charts and bar charts;	and areas; Interpret maps and scale	R8 Use Fractions to describe a	S4 Use the median, mean, mode and	R11 Calculate with standard and
	with decimals; Add and subtract	S4 Compare distributions using	drawings	proportion	range to interpret and compare	compound units
	positive and negative integers and	median, mode and range	G16 Know and apply formulae for	R4 Write ratio in its simplest form	distributions	R10 Share an amount in a ratio
	decimals, Multiply and divide	N10 Convert a fraction to a decimal	areas of rectangles and triangles,	R9 Find percentages of amounts	S6 Use correlation to describe scatter	
	positive and negative integers	with a calculator	G7 & G24 Identify, describe and	N4 Use factor trees to sytematically	graphs;	
		N8 Find fractions and percentages of	construct reflections, rotations,	list the prime factors of a number	N8 Calculate exactly with fractions	
	or whole number	amounts;	P1 Use experimental data to	N5 Use lists of multiples to find LCM	and multiples of π	
	A1 use and interpret algebraic	N12 Convert between decimals and	estimate probabilities	of two or more numbers	A14 Interpret real-life graphs	
	notation	percentages	P2 Calculate theoretical probabilities	N6 Recognise powers of 2, 3,	G20 Use the formula for Pythagoras	
	A2 substitute numerical values into	A2 Substitute numerical values into	using the idea of equally likely	A8 Work with co-ordinates in the	Theorem;	
	formulae and expressions	formulae and expressions	outcomes	first quadrant	P6 Construct possibility lists and use	
	A3 understand and use the concepts	A3 Identify inequalities, equations,	P4 Recognise mutually exclusive	A9 Plot straight line graphs	these to calculate probabilities;	
	and vocabulary of expressions,	formulae and identities	events and know that the probability	A14 plot and interpret graphs, and	incoc to carculate probabilities,	
	equations, formulae, terms and		of mutually exclusive events sum to 1	graphs of non-standard functions in		
	factors		N15 Round numbers and measures	real contexts, to find approximate		
	G3 apply the properties of angles at a		to nearest 10, 100, 1000 or whole	solutions to problems		
	point, angles at a point on a straight		number	G12 Identify the number of faces,		
	line, vertically opposite angles;		N14 Use approximation to make	edges and vertices of 3D shapes;		
	G4 Derive and use the sum of angles		estimates;	G16 Calculate the volume of cuboids,		
	in a triangle		N13 Use standard units of length,	G10 calculate the volume of cubolus,		
	iii a triangle		mass, volume, capacity, time and			
			area			
			A17 Set up and solve linear equations			
			A22 Represent linear inequalities on	1		
			a number line			
Stage 1	N1 Order positive and negative	S2 Construct and interpret frequency	G14 Accurately draw and measure	G9 Identify and apply circle	S2 Interpret and construct tables,	A23 Find terms of a linear sequence
Entry Level		tables and two-way tables; Construct	lines and angles	definitions;	graphs and charts for discrete data	using term-to-term rules
	≤,≥	and interpret pictograms, bar line	G15 Use standard units for lengths	G2 Construct triangles	S4 Use the median, mode and range	A24 Recognise special sequences
	N2 Use place value in whole	charts and bar charts;	and areas;	R8 Use Fractions to describe a	to interpret distributions	R11 Calculate with standard and
	numbers; Add and subtract positive	N10 Convert a fraction to a decimal	G16 Know and apply formulae for	proportion	N8 Calculate exactly with whole	compound units
		with a calculator	areas and perimeters of rectangles	R4 Write ratio in its simplest form	numbers	R10 Share an amount in a ratio
	integers.	N8 Find fractions of amounts;	G7 Recognise line and rotational	R9 Find percentages of amounts	A14 interpret real-life graphs (eg for	nizo snare an amount in a ratio
	N15 Round to a nearest 10, 100,	A2 Substitute numerical values into	symmetry,	N4 Use factor trees to sytematically	conversion)	
	1000	formulae	P1 Use experimental data to	list the factors of a number	P6 List possibilities and use these to	
	A1 begin to use and interpret	Torridae	estimate probabilities	N6 Recognise powers of 2, 3,	calculate probabilities;	
	algebraic notation		N15 Round numbers and measures	A8 Work with co-ordinates in the	p. 0202	
	A2 substitute numerical values into		to nearest 10, 100, 1000	first quadrant		
	formulae		N14 Use approximation to make	I st qualitative		
	G3 learn the properties of angles at a		estimates;	A14 interpret graphs, in real		
	point, angles at a point on a straight		N13 Use standard units of length,	contexts, to find approximate		
	line, vertically opposite angles;		mass, volume, capacity, time and	solutions to problems eg currency		
	inie, verticany opposite angles,		area	conversion		
				G12 Identify the number of faces,		
				edges and vertices of 3D shapes;		
				G16 Calculate the volume of cuboids,		
				_ ·		