









Curriculum Progress Plan5Key Stage 3Year

MATHS

Year 2018-19

	HALF TERM 1	HALF TERM2	HALF TERM3	HALF TERM 4	HALF TERM 5	HALF TERM 6
Topic Titles	Whole numbers and Decimals Measures and Area Expressions and Formulae	Fractions, Decimals and Percentages Angles and 2-D shapes Graphs	Calcuations Statistics	Transformations and Symmetry Equations Powers and Roots	Construction Sequences 3-D shapes	Ratio and Proportion Probability Real Life Maths
Objectives (The things we want the pupils to make progress in)	In critical and the place value value for decimals, measures and integers of any size. N13 Round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]. N5 Use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals. N3 Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, highest common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property. Enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams. N2 Order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, \neq , <, >, ≥ R1 Change freely between related standard units [for example time, length, area, volume/capacity, mass]. G1 Derive and apply formulae to calculate and solve problems involving: perimeter and area of trianoles on transitional standard units [for example time, length, area, volume/capacity, mass].	N11 Interpret fractions and percentages as operators N4 Use the 4 operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative. N9 Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and 7/2 or 0.375 and 3/8). DF5 Move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs] N10 Define percentage as 'number of parts per hundred', interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express 1 quantity as a percentage of another, compare 2 quantities using percentages, and work with percentages, and work with percentages greater than 100%. R8 Solve problems involving percentage change, including:	formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative. N14 Use approximation through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation a <xsb N13 Round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]. N15 Use a calculator and other technologies to calculate results accurately and then interpret them appropriately. DF12 Select and use appropriate calculation strategies to solve increasingly complex problems. DF7 Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics RM7 Develop their mathematical knowledge, in part through solving problems S2 Construct and interpret appropriate tables, charts, and diagrams, including frequency tables har charts</xsb 	G8 Identify properties of, and describe the results of, translations, rotations and reflections applied to given figures. G9 Identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids. R2 Use scale factors, scale diagrams and maps. A3 Understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors. A7 Use algebraic methods to solve linear equations in 1 variable (including all forms that require rearrangement). DF3 Use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships. DF4 Substitute values in expressions, rearrange and simplify expressions, and solve equations. A6 Model situations or procedures by translating them into algebraic expressions or formulae and by using graphs. RM14 Make and test conjectures about patterns and relationships, look for proofs or counter-examples. N7 Use integer powers and associated real roots (square, cube	and angles in geometric figures, including interpreting scale drawings. G9 Identify and construct congruent triangles, and construct congruent shapes by enlargement, with and without coordinate grids G5 Describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric G4 Derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line. A14 Generate terms of a sequence from either a term-to-term or a position to-term rule. A15 Recognise arithmetic sequences and find the nth term G15 Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D. DE7 Lise language and properties	Ref Observation to isimplest form. R5 Divide a given quantity into 2 parts in a given part;part or part;whole ratio; express the division of a quantity into 2 parts as a ratio. RM2 Extend and formalise their knowledge of ratio and proportion in working with measures and geometry, and in formulating proportional relations algebraically. N10 Define percentage as 'number of parts per hundred', interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express 1 quantity as a percentage of another, compare 2 quantities using percentages, and work with percentages greater than 100% S3 Describe simple mathematical relationships between 2 variables (bivariate data) in observational and experimental contexts and illustrate using scatter graphs SP2 Develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics. SP4 Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems P1 Record, describe and analyse the frequency of nutcomes of simple

Stage 4	N1 Understand and use place value	N11 Interpret fractions and	N4 Use the 4 operations, including	G8 Identify properties of, and describe	G3 Draw and measure line segments	R4 Use ratio notation, including
GCSE 5-6	for decimals, measures and integers	percentages as operators	formal written methods, applied to	the results of, translations, rotations	and angles in geometric figures,	reduction to simplest form.
000200	of any size.	NALISE the A operations including	integers, decimals, proper and	and reflections applied to given	including interpreting scale drawings.	R5 Divide a given quantity into 2 parts
	N13 Round numbers and measures to	formal written methods applied to	Improper fractions, and mixed	figures.	G9 Identify and construct congruent	in a given part:part or part:whole ratio;
	an appropriate degree of accuracy [for	formal written methods, applied to	numbers, all both positive and	G9 Identify and construct congruent	triangles, and construct similar	express the division of a quantity into
	example, to a number of decimal	integers, decimals, proper and	N14 Liss approximation through	triangles, and construct similar	without operdinate gride	2 parts as a fallo. PM2 Extend and formalias their
	N5 Use conventional notation for the	improper fractions, and mixed	IN 14 Use approximation through	shapes by enlargement, with and	C5 Describe sketch and draw using	knowledge of ratio and proportion in
	priority of operations, including	numbers, all both positive and	colculate possible resulting errors	without coordinate grids.	conventional terms and notations:	working with measures and geometry
	brackets powers roots and	negative. N9 Work interchangeably	expressed using inequality notation	R2 Use scale factors, scale diagrams	points lines parallel lines	and in formulating proportional
	reciprocals.	with terminating decimals and their	a <x≤b< th=""><th>and maps.</th><th>perpendicular lines, right angles.</th><th>relations algebraically.</th></x≤b<>	and maps.	perpendicular lines, right angles.	relations algebraically.
	N3 Use the concepts and vocabulary	corresponding fractions (such as 3.5	N13 Round numbers and measures to	As Understand and use the concepts	regular polygons, and other polygons	N10 Define percentage as 'number of
	of prime numbers, factors (or	and 7/2 or 0.375 and 3/8).	an appropriate degree of accuracy [for	equations inequalities terms and	that are reflectively and rotationally	parts per hundred', interpret
	divisors), multiples, common factors,	DF5 Move freely between different	example, to a number of decimal	factors.	symmetric	percentages and percentage changes
	common multiples, highest common	numerical algebraic graphical and	places or significant figures].	A7 Use algebraic methods to solve	G4 Derive and use the standard ruler	as a fraction or a decimal, interpret
	factor, lowest common multiple, prime	diagrammatic representations [for	N15 Use a calculator and other	linear equations in 1 variable	and compass constructions	these multiplicatively, express 1
	factorisation, including using product		technologies to calculate results	(including all forms that require	(perpendicular bisector of a line	quantity as a percentage of another,
	notation and the unique factorisation	example, equivalent fractions,	accurately and then interpret them	rearrangement).	segment, constructing a perpendicular	compare 2 quantities using
	property. Enumerate sets and	fractions and decimals, and	appropriately.	DF3 Use algebra to generalise the	to a given line from/at a given point,	percentages, and work with
	unions/intersections of sets	equations and graphs]	DF12 Select and use appropriate	structure of arithmetic, including to	bisecting a given angle); recognise	Percentages greater than 100%
	Vonn diagrama	N10 Define percentage as 'number of		formulate mathematical relationships.	from a point to a line on the abortant	S3 Describe simple mathematical
	N2 Order positive and pogetive	parts per hundred', interpret	DE7 Liss longuage and properties	DF4 Substitute values in expressions,	distance to the line	(biveriete deta) in chechyotianal and
	integers decimals and fractions: use	percentages and percentage changes	precisely to analyse numbers	rearrange and simplify expressions,	A14 Generate terms of a sequence	experimental contexts and illustrate
	the number line as a model for	as a fraction or a decimal, interpret	algebraic expressions, 2-D and 3-D	and solve equations.	from either a term-to-term or a	using scatter graphs
	ordering of the real numbers; use the	these multiplicatively, express 1	shapes, probability and statistics	Ab Model situations of procedures by	position to-term rule.	SP2 Develop their use of formal
	symbols =, ≠, <, >, ≤, ≥	quantity as a percentage of another	RM7 Develop their mathematical	expressions or formulae and by using	A15 Recognise arithmetic sequences	mathematical knowledge to interpret
	R1 Change freely between related	compare 2 quantities using	knowledge, in part through solving	aranhs	and find the nth term	and solve problems, including in
	standard units [for example time,	compare 2 qualitities using	problems and evaluating the	RM14 Make and test conjectures	G15 Use the properties of faces,	financial mathematics.
	length, area, volume/capacity, mass].	percentages, and work with	outcomes, including multi-step	about patterns and relationships; look	surfaces, edges and vertices of	SP4 Select appropriate concepts,
	G1 Derive and apply formulae to	percentages greater than 100%.	problems	for proofs or counter-examples.	cubes, cuboids, prisms, cylinders,	methods and techniques to apply to
	calculate and solve problems	R8 Solve problems involving	S2 Construct and interpret appropriate	N7 Use integer powers and	pyramids, cones and spheres to solve	unfamiliar and non-routine problems
	involving: perimeter and area of	percentage change, including:	tables, charts, and diagrams,	associated real roots (square, cube	problems in 3-D.	P1 Record, describe and analyse the
	triangles narallelograms tranezia	L	Jincluding frequency tables har charts		DE7 Use language and properties	treauency of outcomes of simple

GCSE 3-4 for decimals, measures and integers of any size. for decimals, measures and integers, decimals, proper fractions all and results of the results of	plest form. In quantity into 2 parts
GLSE 3-4 of any size. percentages as operators integers, decimals, proper fractions all and reflection applied to given including interpreting scale drawings. R5 Divide a given	en quantity into 2 parts
	1 2 1
N13 Round numbers and measures to N4 Use the 4 operations, including both positive and negative. fourtes 69 Identify and construct congruent in a given part:	art or part:whole ratio;
an appropriate degree of accuracy [for formal written methods, applied to N14 Use approximation through G9 Identify and construct congruent triangles, and construct similar express the div	sion of a quantity into
example, to a number of decimal integers, decimals, proper and rounding to estimate answers and triangles, and construct similar shapes by enlargement, 2 parts as a rat	0.
places]. improper fractions all both positive calculate possible resulting errors shapes by enlargement with and G5 Describe, sketch and draw using N10 Define per	entage as 'number of
N5 Use conventional notation for the and negative expressed using inequality notation without coordinate grids. conventional terms and notations: parts per hundr	ed', interpret
priority of operations, including and regionalized designations designed to a second designation of the convert terminating designation of terminating designating desig	d percentage changes
brackets, powers, roots. No Convert terminating declination of N13 Round numbers and measures to and maps. N13 Round numbers and measures to and maps.	a decimal, interpret
N3 Use the concepts and vocabulary their corresponding fractions (such an appropriate degree of accuracy [for A3 Understand and use the concepts regular polygons, and other polygons these multiplications and the polygons are used to be a such as the such as	lively, express 1
of prime numbers, factors (or as 3.5 and 7/2 or 0.375 and 3/8). example, to a number of decimal and vocabulary of expressions, that are reflectively and rotationally quantity as a per-	rcentage of another,
divisors), multiples, common factors, DF5 Move freely between different places]. equations, inequalities, terms and symmetric compare 2 qua	itities using
formon multiples, highest common numerical representations [for numerical representations [for numerical representations [for numerical representations]	d work with
Tactor, lowest common multiple, prime factorisatio example, equivalent fractions, example, example, equivalent fractions, example, example,	ater than 100%
N2 Order positive and negative fractions and decimals]	tween 2 variables
integers decimals and fractions: use N10 Define percentage as 'number of IDF12 Select and use appropriate	in observational and
the number line as a model for parts per hundred', interpret calculation strategies to solve	ntexts and illustrate
ordering of the real numbers; use the percentages and percentage changes problems.	aphs
symbols =, \neq , $<$, $>$, \leq , \geq as fraction or a decimal interaction by the proceedings of the proceedin	eir use of formal
R1 Change freely between related as a nation of a declinat, interpret precisely to analyse numbers, and solve equations distance to the line. mathematical k	nowledge to interpret
standard units [for example time, these multiplicatively, express 1 algebraic expressions, 2-D and 3-D A6 Model situations, procedures by A14 Generate terms of a sequence and solve problem.	ems, including in
length, area, volume/capacity, mass]. quantity as a percentage of another, shapes, probability and statistics translating them into algebraic from either a term-to-term or a financial mathe	natics.
G1 Derive and apply formulae to compare 2 quantities using RM7 Develop their mathematical expressions or formulae and by using position to-term rule. P1 Record, des	cribe and analyse the
calculate and solve problems percentages, and work with knowledge, in part through solving graphs. A15 Recognise arithmetic sequences frequency of our	comes of simple
involving: perimeter and area of percentages greater than 100%. problems and evaluating the N7 Use integer powers and and find the nth term probability experiments of	riments involving
triangles, parallelograms, volume of R8 Solve problems involving outcomes associated real roots (square, cube), G15 Use the properties of faces, randomness, fa	rness, equally and
cuboids (including cubes) and other necentage change including: S2 Construct and interpret appropriate recognise powers of 2, 3 surfaces, edges and vertices of unequally likely	outcomes, using
prisms per contaga jagranga docrana prisms to solve appropriate an	uage and the 0-1
G2 Calculate and solve problems in 3-D. probability scale). Ala ant Ala a como la alla (1241) 💦 👘
Involving: perimeters of 2-D shapes GU Apply the properties of angles at pie charts, and pictograms for formulate mathematical relationships	inat the probabilities of
including circles, areas or circles and a point, angles at a point on a categorical data, and vertical line (or precisely to analyse numbers, and possible of a point or a categorical data, and vertical line (or precisely to analyse numbers, and possible data) of the precise o	onies sum to 1.

Stage 2	for integers. N13 Round numbers and measures to nearest 10, 100, 1000 and whole number. N5 Use conventional notation for the priority of operations N3 Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples N2 Order positive and negative integers, decimals; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, >, <, ≥ R1 Change freely between related standard units [for example time, length, area, volume/capacity, mass]. G1 Derive and apply formulae to calculate and solve problems involving: perimeter and area of rectangles and triangles, volume of cuboids (including cubes) G2 Calculate and solve problems involving: perimeters of rectangles A4 Simplify and manipulate algebraic expressions to maintain equivalence by: • collecting like terms A2 Substitute numerical values into formulae and expressions. A5 Understand and use standard mathematical formulae	formal written methods, applied to integers, decimals. N9 Convert terminating decimals to their corresponding fractions (such as 3.5 and 7/2 or 0.375 and 3/8). N10 Define percentage as 'number of parts per hundred', interpret percentages as a fractionl, express 1 quantity as a percentage of another. G10 Apply the properties of angles at a point, angles at a point on a straight line G7 Derive and illustrate properties of triangles, quadrilaterals, [for example, equal lengths and angles] using appropriate language and technologies. G12 Derive and use the sum of angles in a triangle G3 Draw and measure line segments and angles in geometric figures RM1 Extend their understanding of the number system; A8 Work with coordinates in the first quadrant. S2 Construct and interpret appropriate tables, charts, and	integers and decimals all both positive and negative. N14 Use approximation through rounding to estimate answers N13 Round numbers and measures to an appropriate degree of accuracy [for exampe nearest 10, 100, 1000 or whole number]. N15 Use a calculator and other technologies to calculate results accurately and then interpret them appropriately. DF12 Select and use appropriate calculation strategies to solve problems. RM7 Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes S2 Construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts and vertical line (or bar) charts for numerical data S1 Describe observed distributions of a single variable through: appropriate graphical representation involving discrete data; and appropriate measures of central tendency (mean, mode, median) and spread (range,)	G8 Identify properties of, and describe the results of rotations and reflections applied to given figures. R2 Use scale factors, scale diagrams. A3 Understand and use the concepts and vocabulary of equations and terms. A7 Use algebraic methods to solve linear equations in 1 variable DF4 Substitute values in expressions, and solve equations. N7 Use integer powers and associated real roots (square, cube), recognise powers of 2, 3	and angles in geometric figures, including interpreting scale drawings. G9 Identify congruent triangles, and construct similar shapes G5 Describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles G4 Derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line. A14 Generate terms of a sequence from a term-to-term rule. A15 Recognise arithmetic sequences and continue G15 Use the properties of faces, surfaces, edges and vertices of cubes, cuboids. Plans and Elevations G1 Derive and apply formulae to calculate and solve problems involving: perimeter and area of rectangles and triangles, volume of cuboids (including cubes).	R4 Use ratio notation, including reduction to simplest form. R5 Divide a given quantity into 2 parts in a given part;part ratio. N10 Define percentage as 'number of parts per hundred', express 1 quantity as a percentage of another, compare 2 quantities using percentages SP2 Develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics. P1 Record, describe and analyse the frequency of outcomes of simple probability experiments involving randonness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale. P2 Understand that the probabilities of all possible outcomes sum to 1.
GC2E 1-2	No Recognise and use relationships	ulagrams, including frequency tables,]		recumear snapes.	

Stage 1 Entry Level	N1 Understand and use place value for integers. N13 Round numbers and measures to nearest 10, 100, 1000. N3 Use the concepts and vocabulary of factors (or divisors), multiples N2 Order positive integers. R1 Change freely between related standard units [for example time, lengths]. G1 Derive and apply formulae to calculate and solve problems involving: perimeter and area of rectangles A4 Simplify and manipulate algebraic expressions to maintain equivalence by: - collecting like terms A2 Substitute numerical values into formulae and expressions. N6 Recognise and use relationships between operations. A1 Use and interpret algebraic notation, including: - ab in place of a × b - 3y in place of a × a × b - a/b in place of a × a × b - a/b in place of a + b	N4 Use the 4 operations, including formal written methods, applied to integers and decimals. N10 Define percentage as 'number of parts per hundred' G10 Apply the properties of angles at a point, angles at a point on a straight line G3 Draw and measure line segments and angles RM1 Extend their understanding of the number system; A8 Work with coordinates in the first quadrant. S2 Construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts and pictograms for categorical data,	N4 Use the 4 operations, including formal written methods, applied to positive integers. N14 Use approximation through rounding to estimate answers N13 Round numbers and measures to an appropriate degree of accuracy [for exampe nearest 10, 100, 1000]. N15 Use a calculator and other technologies to calculate results accurately and then interpret them appropriately. DF12 Select and use appropriate calculation strategies to solve problems. S2 Construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts and pictograms for categorical data S1 Find mean, median, mode and range for given sets of data	G8 Recognise Reflection and Rotational symmetry. R2 Use scale factors, scale diagrams. A3 Understand and use the concepts and vocabulary of equations and terms. A7 Use algebraic methods to solve linear equations in 1 variable DF4 Substitute values in formulae (eg Area rectangle) N7 Use integer powers and associated real roots (square)	G3 Draw and measure line segments and angles in geometric figures, including interpreting scale drawings. G9 Identify congruent triangles, and construct similar shapes G4 Use ruler, protractor and compass to draw and measure accurately . A15 Recognise arithmetic sequences and continue G15 Count faces, surfaces, edges and vertices of cubes, cuboids and other solids, knowing some are hidden Plans and Elevations G1 Derive and apply formulae to calculate and solve problems involving: perimeter and area of rectangles .	R4 Use ratio notation, including reduction to simplest form. R5 Divide a given quantity into 2 parts in a given part:part ratio. N10 Define percentage as 'number of parts per hundred', express 1 quantity as a percentage of another, . P1 Record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale.
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